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TUBERCULOSIS AS A FOCAL DISEASE *

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It is sometimes important to get a new point of view for those serious problems that are most constantly with us Like moving from one house to another, brings to light things that have been forgotten, and loses others that were constantly in evidence If we an do this with regard to tuberculosis, if we can bring ut old facts that have been neglected and see them with a new significance if we can lose some of our isconceptions that have been too constantly with us, lin[illegible]g the real significance of what we observe, it may a p[illegible]ofitable use of our time

GENERAL AND FOCAL DISEASES

A focal infection is an infection of some part of the dy, localized by the defensive reactions of the tissues uberculosis is the sum of the defensive local and neral reactions of the organism against the tubercle cillus, and the sequels of such reactions We have mmonly thought of tuberculosis as a chronic general sease

In a sense we have no such thing as local disease the human body Injury to the smallest and most stant part produces general reactions of the whole ganism, whether the injury be mechanical, chemical, due to bacterial invasion or simply to strong emo- on That is what our connecting nervous and vascu- r mechanisms are for Any imperfection or excess such reactions, and also their most perfect adapta- on to their purpose, constitute disease They reach ery part of the body A professional colleague ministered an ill-advised remedy to his daughter sulting in her death Three months later he pointed it on each of his finger-nails the transverse furrow hich marked the influence of the nervous shock on ery epithelial cell that had been in a certain stage of velopment

What we call general diseases exhibit their characristic changes only in certain portions of the body is scarlet fever or measles in the skin and mucous surfaces, or typhoid in the intestinal lymph glands Away from these regions of acute disturbance, physiologic function is carried on much as in health Just as in France during the war, beyond the sound of the guns and out of the region of air attacks the life of the community and the production of food continued along the same lines as it had in the years before the German assault on civilization At certain points war disorganized everything, destroyed everything substituted its activity and accumulations for those of peace The whole nation felt the effect of war, but its characteristic and obvious changes were localized These were foci of war, and in quite a similar sense we speak of the foci of disease—of focal infections

Every focus of infective disease is a point of attack and defense, of armed aggressive force The opposing forces may be for the time accurately balanced may sink into a state of siege, or only keep up the minor exchanges of trench warfare, but there is always present the aggressive disposition and the possibility of attack intended to annihilate all defense, and carry the warfare into new fields, there to produce a similar devastation That is the nature and significance of every focal infection

The typical tubercle is a typical focal infection It is created by the reaction of the invaded tissue to the injurious influences of a colony of tubercle bacilli, sufficiently numerous and sufficiently virulent to establish themselves in that particular locality, and make their influence felt It exhibits all grades of pathologic achievement, from massing of leukocytes and the proliferation of fixed tissue cells required to resist invasion, through degenerated epithelioid and giant cells to fatty, cheesy and calcareous masses of cell debris It is a lesion preeminent in the length of the siege that the invading bacilli can withstand, maintaining their vitality to sally out when conditions become more favorable, and plant new colonies, thus to repeat the same process in other parts of the body The single tubercle with these characteristics is the organic basis of tuberculosis, the essential feature of the disease, the one that all cases have in common and the entity complete in itself Tuberculous organs or regions are areas in which multiple foci have been massed

The other phenomena that have been grouped in our minds to form the clinical picture of tuberculosis are occasional, incidental and temporary They belong with coincident infections and complications or are connected with a certain stage or particular locality of the focus of tuberculous invasion

HISTORY OF TUBERCULOSIS

The history of our knowledge and recognition of tuberculosis is peculiar Typhus and typhoid fevers absolutely distinct diseases were long confused "Abdominal typhus," "typhus exanthematique are terms that still remind us of the period when efforts were made to distinguish between them Gonorrhea syphilis and chancroid were all regarded as one disease The terms "French measles and 'German measles" commemorate the classing with measles of a roseola or rötheln One dysentery was classed with

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* President's address read before the Medical Society of the City and County of Denver Jan 6 1920

f interest, because of the light they throw on the focal infections of tuberculosis in general

The retinal tubercle is generally clearly connected with a blood vessel either an artery or a vein, but more frequently the latter The vessels thus involved vary from 0 01 to 0 1 mm in diameter In the beginning the vessel appears normal, except that at the seat of the lesion it is covered by a yellowish white or grayish white, *rounded cloud, with an indefinite margin* This area reaches its full size in a very few days On either side of the tubercle the appearance of the vessel may remain about normal, or may change slowly The arteries commonly show little alteration, except that the perivascular sheath may become visible as white lines parallel to the blood column The veins are more likely to become dilated in limited portions, which may be several millimeters in length Such a dilated portion may have three or four times the diameter of the normal vein at either end of it, and the dilated part may end quite abruptly It is as though that part of the venous wall had been weakened by some noxious influence exerted on it, while other parts of the wall remained healthy

After many days or several weeks, newly formed vessels are seen on the surface and periphery of the tubercle, attended with some increase in the size of the mass and more clouding of its edges (added exudates) The vascularity includes all sizes of vessels from swollen capillaries (which are easily distinguishable with the ophthalmoscope) to vessels almost as large as the trunk on which the tubercle is located Then, very gradually the reddish gray area shrinks, becomes lighter in color, less vascular, and more transparent so that the fundus red shows through Finally, the lesion fades away completely, leaving the vessels, the choroid and apparently the retina in the same condition as before the attack This fact of complete resolution of some retinal foci of infection seems of great importance in its bearing on the possibility of complete healing of tuberculous lesions elsewhere in the body

More frequently, the stage of peripheral vascularity and exudate does not go on to complete resolution The gray mass becomes whiter but not transparent It extends in certain directions, developing into a band or connecting bands of brilliant white fibrous tissue, on the surface of which stand out sharply a reduced number of blood vessels, often still quite tortuous This condition, known as retinitis proliferans, appears to be quite permanent It has been observed many years after the original focal infection and period of hemorrhage

The development of such masses of white fibrous tissue generally, perhaps always, follows hemorrhage Hemorrhage is at first quite absent from these retinal lesions, although in most cases the loss of vision caused by hemorrhage is the first thing that brings the patient under observation This is extremely interesting when we remember the long controversy in which many famous names were marshaled in support of the view that hemoptysis was the cause of phthisis It seems always to be present in cases of retinal tuberculosis and it is probable that in a majority of cases, massive hemorrhage occurs, arresting attention by great reduction of vision

The hemorrhage is first observed several days or weeks after the first retinal lesion In Finnoff's case which was seen very early on account of corneal lesions and eye strain, the first hemorrhage was found at about the fourth week From the time they begin they continue to recur so long as the disease remains active often for many months or years The tendency to the formation of white fibrous tissue is closely connected with the occurrence of relatively large hemorrhages Hemorrhage, so far from being the cause of the disease, is one of the defensive resources of the *organism, although* very disastrous to sight when occurring in this situation I have twice seen it occur within forty-eight hours after therapeutic subcutaneous doses of tuberculin

The focus of infection may occur in any part of the eye In the skin of the lids it has the varied characters of lupus, and in the conjunctiva almost as wide a variety In both of these structures the lesion is apt to depart rather widely from the typical tubercle both here and in tuberculosis of the lacrimal passages it is generally *difficult, and sometimes impossible to* distinguish the bacillus by the usual staining methods I would suggest that in these lesions the search be carried on with the help of other than the Ziehl stain In the cornea a nonvascular tissue tuberculosis generally appears as an extension from the anterior chamber, iris or ciliary body Occasionally the focus has seemed to be originally in the substance of the optic nerve, although much more commonly in the neural sheaths

UNRECOGNIZED TUBERCULOUS INFECTIONS

From what has been observed in the eye the part of the body most completely open to observation the statement seems justified that the tuberculous focus of infection may be found, and may first attract attention, in any organ or tissue of the body This is generally admitted What is not generally appreciated is the fact that tuberculous focal infections do occur and pass unrecognized in other parts of the body more frequently than they do in the lungs, lymph glands spine and hip joint, where they are generally recognized

The great obstacle to the recognition of a tuberculous focal infection where we are not looking for it has been the fact that there was no tuberculosis where we expected to find it In one case of ocular tuberculosis, failure to react to tuberculin tests and the absence of any signs of the disease in lungs bones, joints or notably enlarged glands was supposed by a competent internist to rule out tuberculosis But a few months later the opening of the skull for organic brain disease revealed a tuberculous meningitis The diagnostic use of tuberculin is known to fail us sometimes in pulmonary and general miliary tuberculosis We must admit that its negative showings do not rule out a tuberculous focus of infection in some other part of the body, where such a focus would be less likely to be thought of

It may be that Naegeli's statistics showing that up to the age of 18, 97 per cent of all persons coming to necropsy have suffered from some focus of tuberculous infection, do not apply generally and exaggerate the prevalence of such infections However only a belief in some such prevalence will eliminate a large number of errors of diagnosis in the direction of failure to recognize such lesions

When a few years ago I had tuberculin given for a chronic choroidal lesion the reaction of pain and swelling in the metatarsophalangeal joint of the great toe helped to confirm the diagnosis it revealed a [illegible] that otherwise would have escaped attention or [illegible] significance would never have been thought of by the patient. Probably this "confirmation" would have left the diagnosis of tuberculosis subject to a great deal of skepticism on the part of doubting colleagues. But such skepticism would hardly have stood up against the severe tuberculous pleurisy that this patient developed with a new focus in the choroid six years later.

My experiences with tuberculosis have disposed me to look widely for its foci of infection, and accept its great chronicity and prolonged latency or arrest. A woman was supposed to have phthisis in her early twenties and early death was anticipated. One of her brothers and a sister had died of the disease. But her husband, a farmer, got her a horse and buggy which were always kept for her own use. She scandalized her country neighbors by the amount of time she spent driving about. She always had a cough, and when she died at over 75 years of age, necropsy revealed cavities, calcareous and cheesy nodules, and other foci which were active.

Early in my general practice I assisted at a necropsy of a patient who died of phthisis; the attending physician explained to us that he expected to find in one kidney the evidence of a tuberculous infection that he had diagnosed as a kidney lesion more than twenty years before. We found there the calcareous and cheesy masses with active tubercles. Another patient had suffered and apparently recovered from a tuberculous pleurisy ten years before the onset of discoverable pulmonary symptoms that ended three years later in death from phthisis. If there is one lesson of my professional life that stands out more strongly than any other, and which seems to deserve all the emphasis that can possibly be put on it, it is that an enormous number of tuberculous focal infections occur in persons not considered tuberculous by themselves, their friends, or even their physicians.

Perhaps not every one is tuberculous, but successful diagnosis requires that every one presenting symptoms which might arise from a tuberculous focal infection should be assumed tuberculous until the contrary is proved. Above all we must get away from the error of letting family history, recent exposure, favorable conditions of life or apparent recent health influence our judgment of the probabilities of the existence of a focus of tuberculous infection somewhere within the body. All these things are invoked to prove that a lesion is not tuberculous, and they all tend to prevent the recognition of unusual or minor infections.

PATH OF INFECTION

Some very practical points are connected with this conception of tuberculosis as a focal infection. It has often been asked whether the lesion was primary or secondary, and on the answer to this it was sought to decide the plan of treatment. Excision of tuberculous foci in glands, bones, conjunctiva or eyeball has been fairly tried, sometimes with results a little better than those of nonoperative treatment, but in some cases with results distinctly worse.

There has been at times and in certain people an almost hysterical fear of the contagiousness of consumption, leading to folly and inhumanity in the treatment of those manifestly suffering from phthisis. Health regulations have been ruthlessly enforced by officials who carried in their own persons the active lesions or the latent focal infections of tuberculosis. Such fears and such regulations have been based on suppositions regarding the channels by which tuberculosis is usually transmitted and enters the human body.

When we come to examine the facts it becomes evident that we know very little about the path of infection. Two portals of entry have received much attention, the *respiratory tract* and the alimentary canal. But the facts that stand prominently forth in all the accumulated literature are: The tubercle bacillus gets entrance to the body usually long before any of the effects of its presence are recognizable, and often makes itself known first in the interior of the eye, in the head of the femur or the bodies of the vertebrae. It has been known to enter the body without giving the slightest evidence at the point of entrance.

Possibly when the first manifestations are in a chain of lymph glands, as in the neck or mesentery, these point correctly to the portal of entry. But at the point of entrance there is no evidence of disease; primary tuberculosis of the tonsils or of the mucous lining of the intestine is of extreme rarity. In the great mass of cases the involvement of these surfaces is manifestly late and secondary.

Even in the lungs the evidence of lesion at the point of entrance is contradictory and inconclusive. In the human being pulmonary tuberculosis is always discovered after the essential lesion has reached an advanced stage of evolution, or it is recognized after the lesion has run its course, broken down and is discharging bacilli. In animal experimentation there are great gaps between the inhalation of the bacilli and the finding of lesions in the lung. With lupus, in many respects an aberrant form of tuberculosis, the beginning and course of the lesions ally it with internal focal infections rather than suggest that it is an initial lesion.

Only in the wartlike lesions that follow slight injuries to the hands of postmortem workers and a few cases of tuberculosis of the conjunctiva is the preponderance of evidence in favor of lesion at the site of entrance. There is just one case on record of tuberculous ulcer of the cornea following lesion from the nail of a tuberculous child.

The evidence we now have indicates that the point of entrance plays little part in determining the location of the primary focus of infection, unless possibly when this is some lymph gland. The bacilli find their way into the circulation without provoking reaction, and in some favorable situation, some point of lowered resistance, establish a colony, a focus of infection. The possibility of the development of such a lesion and of its subsequent power for extension and general harm lies in insufficient resistance of the body tissue.

IMMUNITY

The great majority of human beings, at least those living under the conditions of civilization, harbor tubercle bacilli at some time in their lives, just as every country that has attained a social organization harbors anarchists. It may be wise and right to reduce and keep down the infection to a minimum. But for the mass of us the only effective defense that stands between health and a generalized active or latent tuberculosis is a certain amount of tissue resistance or [illegible] immunity, and it is toward understanding and building up this resistance that the war on tuberculosis must be more and more directed if it is to be successful.

Some things we know about the [illegible] living, sunshine, rest, alimentation [illegible] tion toward the events of life, the value of [illegible] a specific provocative (tuberculin) [illegible] furnished in sufficient quantity by the focus of infection But surely there is a great deal more to be learned about this immunity, there is an immense field of labor for the medical profession, in forcing on the community the importance of the facts about it that we already know, and it is the duty of our civilization to see that by legal enactment, by social custom, by individual example, by universal teaching in our educational system, our knowledge is applied in the life of the people

CONCLUSIONS

Briefly, we have learned that

The different forms of this focal infection are one disease—the unity of tuberculosis

A very large proportion of those who suffer such infections never suffer the conditions that were formerly recognized as tuberculous—phthisis, scrofula, bone disease, etc

At its point of entrance, the tubercle bacillus very rarely provokes any reaction or excites a noticeable lesion

Foci of infection are established within the bodies of a great many people, where they are kept in check by tissue resistance

The overcoming of tuberculosis is chiefly a matter of building up and sustaining immunity by wise and careful living

318 Majestic Building

Resolutions on Use of Vaccines in Influenza.—At a meeting of the sanitation committee of the Allegheny County Medical Society a resolution was adopted to cooperate to the fullest extent with the Department of Public Health of Pittsburgh with whose action this committee is in complete accord Another resolution provided that the committee indorse a request suggested by Major Davis *that all physicians* in the city of Pittsburgh report their cases of influenza The committee announces its position with reference to the use of prophylactic vaccine in connection with the present possible epidemic of influenza as follows 1 There is no evidence to show that any of the so called prophylactic vaccines which have been used will prevent influenza 2 No physician or other person has a right from the data on hand to guarantee protection to any individual because of the administration of a prophylactic vaccine for influenza or pneumonia 3 *It is possible that the antipneumococcus* vaccine has value in the prevention of pneumonia 4 Prophylactic vaccination to be protective should be completed before exposure to the disease.—*Bulletin Allegheny County (Pa) Medical Society*

A MODIFIED TECHNIC IN OPERATION FOR OBLIQUE INGUINAL HERNIA

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This modification of standard technic for the operative cure of oblique inguinal hernia has been developed over a period of time It is a product of gradual evolution, in which the basic features are classical, but by a successive adaptation and combination of features that in my experience and observation have been found desirable, the classic has undergone changes and variations The results have proved quite uniformly successful and satisfactory

DETAILS OF TECHNIC

STEP 1—After the patient comes to the operating table the site of the operation is twice painted with 5 per cent picric acid in 95 per cent alcohol The landmarks of the operative field are located the anterior superior spine of the ilium, pubic spine middle of the base of the penis Poupart's ligament and the external inguinal ring An incision is made through the skin and superficial fascia parallel to and about three-fourths inch above Poupart's ligament, extending from the external ring upward and out to about one inch beyond midline of Poupart's ligament Superficial vessels are caught up and ligated Vessels liable to be severed are the superficial epigastric and superficial external pudic arteries and veins This incision exposes the aponeurosis of the external oblique and the external ring (Fig 1) The aponeurosis should be well cleaned by wiping back the superficial tissues to Poupart's ligament below and about 1¼ inches above the incision Care must be taken not to injure the ilio-inguinal nerve, which sometimes emerges through the aponeurosis above the external ring The wound is thoroughly dried before the next step

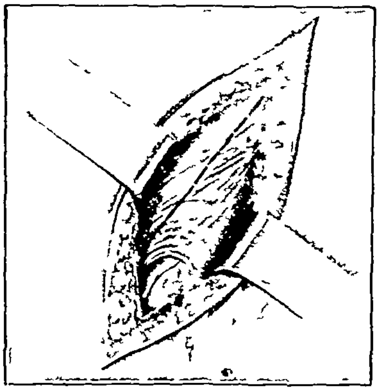

Fig 1—Exposure of aponeurosis of left external oblique showing line of incision not entering the external ring Ilio inguinal nerve emerging through external ring

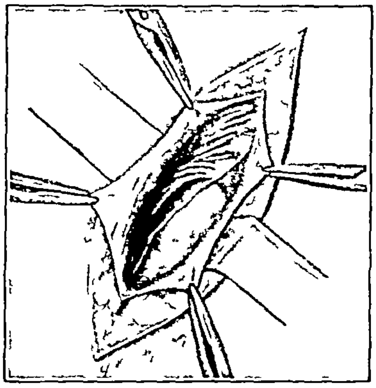

Fig 2—Incision has been made in aponeurosis exposing internal oblique muscle cord and ilio inguinal nerve

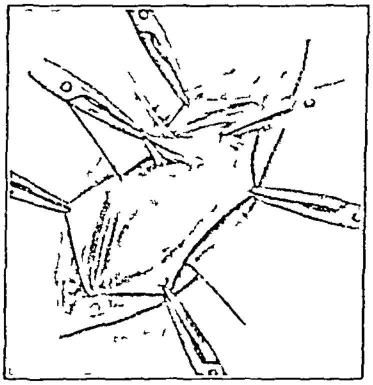

Fig 3—The internal oblique and transversalis muscles have been pulled upward and peritoneum is caught with forceps cord not disturbed

STEP 2—An incision is made through the aponeurosis of the external oblique muscle, beginning about one fourth inch above the external ring and continuing upward in the direction of the fibers of the aponeurosis or slightly across them toward Poupart's ligament to a point just beyond the internal ring (Fig 2) By cutting slightly diagonally across the fibers the exposure of underlying structures is facilitated With the handle of the knife the inside of the aponeurosis is cleared first downward along the shelf of Poupart's ligament from the internal ring to the pubic spine then upward exposing the internal oblique muscle the internal ring the conjoined tendon and the sheath of the rectus Care must be taken not to injure the ilio inguinal nerve lying either along the cord or on the internal oblique muscle, or the iliohypogastric nerve which sometimes comes through the internal oblique muscle low down Generally it is found in the upper external angle of the wound (Fig 6)

Step 3—The handle of the knife is then placed between the conjoined tendon and the cord, and separates those structures and the muscles up to the internal ring

Step 4—The internal oblique and transversalis are put on the stretch and a retractor is inserted to pull those muscles upward, exposing the peritoneum above the internal ring This frequently bulges like a sac (Fig 3)

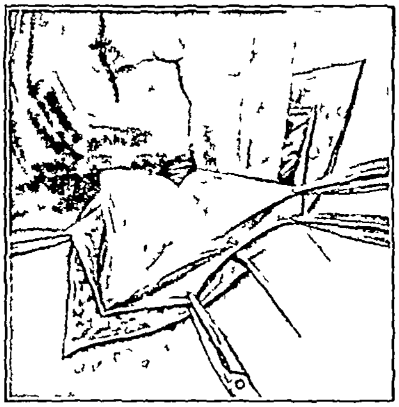

Fig 4—The peritoneum has been incised the finger enters the sac from above downward, neck of sac is about at crook of finger

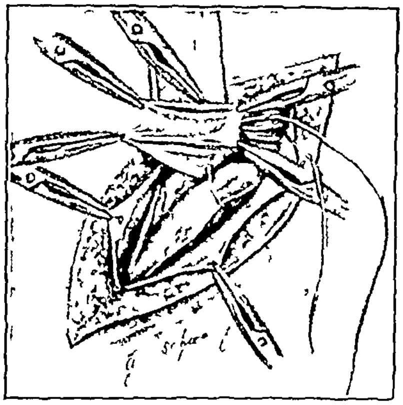

Fig 5—Sac being tied off well above neck above incision in peritoneum (This illustration represents a very small sac which has been split to its tip)

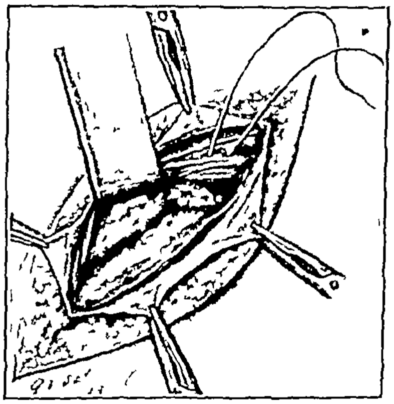

Fig 6—Dislocation upward of ligated peritoneal opening The iliohypogastric nerve is shown in the upper angle of the wound lying on the internal oblique it is frequently injured by suturing

Step 5—The peritoneum is caught up and incised between two forceps This incision is made in the peritoneum proper above the neck of the hernial sac which can now be located by viewing it from above and by the insertion of a finger into the sac This one step has greatly facilitated the search for the sac, in fact, no search is needed

Step 6—The finger is inserted into the sac from above, and the sac is freed from surrounding tissues by gauze dissection (Fig 4)

Step 7—The sac is then ligated by transfixion in the usual manner, but the ligature surrounds the opening in the peritoneum, thus insuring absolutely the removal of every vestige of the sac (Fig 5)

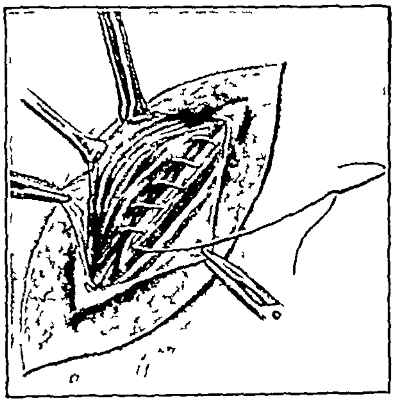

Fig 7—Free borders of the internal oblique and transversalis muscles are caught together and everted exposing posterior surface upper edge of cremaster is sutured to posterior surface of transversalis about three fourths inch from the border the cord is buried beneath the cremaster

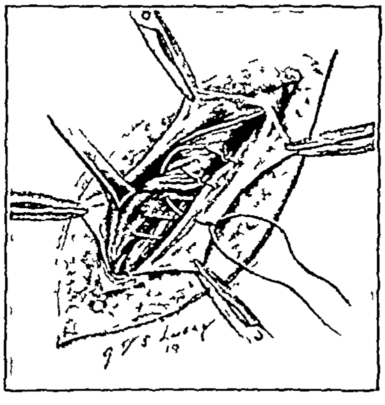

Fig 8—Free borders of internal oblique and transversalis muscles are sutured to shelf of Poupart s ligament

Step 8—The neck of the sac, or rather the pucker of peritoneum, is dislocated upward beneath the internal oblique and transversalis, the ends of the tie-off ligature being passed through those muscles about three-fourths inch above the internal ring (Fig 6) The cord has not been disturbed nor removed from its bed

Step 9—The free borders of the internal oblique and the transversalis are caught together in two forceps and turned upward, exposing the posterior surfaces of these muscles, to which is sewn, at about three-fourths inch from the free border, the upper edge of the cremaster muscle, continuous small plain catgut being used (Fig 7) This covers the cord down to a new ring just above the spine of the pubes One should avoid catching the ilio-inguinal nerve in this suture

Step 10—The free borders of the internal oblique and transversalis muscles and the conjoined tendon are now united to the shelving portion of Poupart's ligament by chromic catgut or kangaroo tendon, substantial bites of the muscle being taken (Fig 8) The sutures are tied without undue tension The cord emerges over the pubic bone beneath the lowest suture The two nerves mentioned should be avoided, frequently the iliohypogastric is quite low enough to be caught The lowest suture should also include the external edge of the sheath of the rectus for strength, especially when the conjoined tendon is defective

Step 11—The aponeurosis of the external oblique is brought together with plain catgut, if necessary, reinforced by imbrication The external ring has not been molested It is sometimes advisable to make it smaller by one or two sutures

Step 12—The superficial tissues are closed by any of the usual methods

ADVANTAGES OF THE TECHNIC

This method results in

1 Easy and unmistakable location of the sac

2 Assurance of the absolute removal of the entire sac *well above its neck*

3 Removal of peritoneal pucker from the area of weakness by dislocating it upward beneath solid muscle

4 Strong repair of the muscular and aponeurotic coverings

U S Naval Hospital

Keep the Farmer Well—A large part of the land in the richest sections of the South, and to a less extent in the North as well, is today partially or wholly unproductive on account of being overrun with malaria, with a consequent loss of millions of dollars Every case of malaria or other efficiency reducing disease means that the output of food is appreciably reduced and that the shortage is immeasurably increased—*Bulletin* State Board of Health of Rhode Island, August, 1919

SPINA BIFIDA OCCULTA IN A CHILD WITH INCONTINENCE OF URINE AND FECES

IMPROVEMENT IN VESICAL CONTROL AFTER OPERATION *

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The great majority of cases of spina bifida occulta have been noted in early adult life, its presence in childhood is uncommon enough to warrant the publication of a report of an instance that came under my observation

According to Brickner,[1] "spina bifida means bifid spine, and that individual has a spina bifida who has a cleft in the spine whether or not there is a protrusion of the spinal structures" The term "spina bifida occulta" was first employed by Virchow in 1875, when he reported a case of spina bifida with the lesion concealed beneath the skin

Since reading Brickner's article it has been our routine procedure to have roentgen-ray examinations made of the spine in all children presenting partial or complete incontinence of urine As a result, the positive diagnosis in the case here reported was promptly arrived at It is our firm conviction that not a few cases of enuresis in children are due to spina bifida occulta

REPORT OF CASE

History—E F girl, aged 6 years, admitted to the A Jacobi Division for Children of the Lenox Hill Hospital, May 1, 1919, was born after normal labor, birth weight unknown She was artificially fed, the first tooth appeared at 7 months The patient talked and walked when 1 year old She had had varicella and measles, and had always been irritable and "nervous" Eight months before the tonsils and adenoids had been removed An older brother had had chorea, and had always been irritable, and now had nocturnal enuresis The mother was poorly developed and of a nervous temperament She had had no miscarriages The father had syphilis ten years before (four years before the birth of our patient) for which he received treatment at this hospital

The present illness started about one year prior to admission, when the patient was 5 years old She began to lose bladder control at various times Interference with vesical function gradually became more constant, and was soon accompanied by rectal incontinence These symptoms became progressively worse, so that at the time of admission to the hospital there was almost complete loss of control both of the bladder and the rectum There had been no remissions or intermissions The patient had suffered no injury nor was there a history of any illness to which the present complaint could be referred The child was well advanced at school, and played and talked with other children in a normal fashion

Examination—On admission to the hospital, the child was fairly well developed, weighed 36 pounds, and the general condition was good The general physical examination was negative

Nervous system The knee jerks were very active There was no ankle clonus, and no Babinski phenomenon nor other abnormal reflexes The superficial abdominal reflexes were present No sensory and no motor disturbances were discovered after a very thorough examination, in which the patient coordinated well

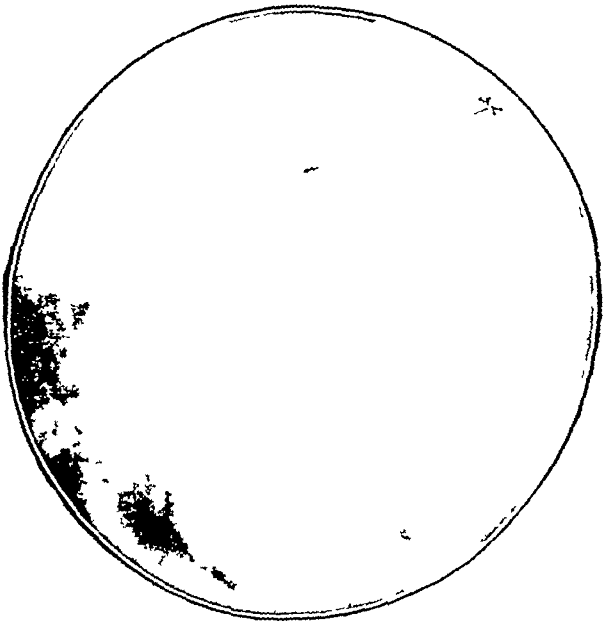
Back There was a fairly well marked compensated left lateral scoliosis with some asymmetry of the left chest wall posteriorly Over the upper part of the right buttock just to one side of the median line, there was a small blind pocket or dimpling of the skin Hypertrichosis often associated with spina bifida occulta, was absent There were no trophic disturbances

The Wassermann reaction of the blood and the Schick test were negative The von Pirquet reaction was positive The urine was negative The blood examination on admission was white cells 8 000 polymorphonuclears, 40 per cent and lymphocytes, 60 per cent

Roentgen-ray examination by Dr W H Stewart disclosed a typical spina bifida the upper arches of the sacrum being lacking, as shown in the accompanying illustration

The chief points of interest in this case were (1) the history of one year's duration of loss of bladder and rectal control, (2) the blind pocket or dimple in the skin over the sacrum, and (3) the positive roentgen-ray findings

The history of incontinence together with the presence of a small dimple in the skin just over the sacrum made us very certain that we were dealing with a case of spina bifida occulta The roentgen ray examination, which showed a distinct cleft in the first sacral arch and the absence of the remaining sacral arches confirmed the diagnosis



Spina bifida of the sacrum with a distinct cleft in the first sacral arch and the absence of the remaining sacral arches

According to C H Frazier[2] symptoms in spina bifida occulta may be present at birth but more often they do not appear until early adult life when the membranous band between the cord and the epidermis begins to compress or pull on the cord and nerve roots There may be present motor sensory or trophic disturbances in the lower extremities Incontinence of the bladder and rectum are often present At times there are defects and malformations in other parts of the body

In this connection it may be of interest to mention that Brickner divides cases of spina bifida occulta into these groups (1) with external signs and with symptoms (2) with external signs without symptoms (3) without external signs with symptoms and (4) [illegible] out external signs without symptoms. According to this classification, our patient comes under Group 1, since there were present external signs (dimple) with symptoms of incontinence.

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* From the A Jacobi Division for Children of the Lenox Hill Hospital

[1] Brickner W M Am J M Sc 155 473 (April) 1918

[2] Frazier C H Surgery [illegible] York D Appleton & Co [illegible]

In some reported cases of spina bifida occulta with symptoms of disturbed sphincteric control, and in others with severe trophic disturbances in which lipomatous tumors and hernias of the cauda equina were found, operative procedures have been of great benefit. At times, simple separation of the membranous bands between the cord and epidermis has resulted in relief of all symptoms.

Course and Treatment.—During a period of three weeks' observation in the hospital, the patient manifested loss of bladder and rectal control, practically daily. In view of the fact that the disturbed sphincteric control had been increasing progressively during the year's illness, an exploratory operation seemed advisable. Accordingly, three weeks after admission to the hospital, operation was performed by Drs. Willy Meyer and W. M. Brickner. A semicircular incision was made through the skin and subcutaneous tissue over the sacral region. The incision started at the level of the first sacral vertebra, curved to the right, and ended at the last sacral vertebra, so that the concavity was toward the median line. The skin flap was reflected, and the incision was extended upward in the right paravertebral line to the last lumbar vertebra. The fascia over the sacral ligaments was divided in the median line and retracted. A small amount of fatty tissue was removed from the field. Examination then revealed the cleft in the laminal arch of the first sacral vertebra. Furthermore, the remaining sacral arches were practically absent, the defect increasing in diameter as the exposure was extended toward the anus. The operative field consisted of a view of the posterior aspect of the body of the sacrum, the sacral canal being exposed to view.

The laminal arch of the fifth lumbar vertebra was resected with bone forceps to obtain better exposure. No advantage was gained by this procedure, as the spinal canal ended at the fifth lumbar-first sacral intervertebral space, and it was decided that to open the spinal canal would be of no avail. The condition was judged to be beyond surgical relief. The fascia was sutured with chromic catgut, the subcutaneous layers were sutured with plain gut suture, and the skin was closed with silkworm gut.

The findings at operation corroborated the roentgen-ray examination in a very precise manner. While the bony defect was easily recognizable, the nerve lesion, if there was such, was not discovered.

In this case there was no hernia of the cauda equina, and no fatty tumor.

Postoperative Course.—During the four weeks following operation, while the patient remained in the hospital, there was no incontinence of urine or feces. She was then sent home, and for one week she had complete control of the rectum and bladder. After that period, however, she lost control of the rectum, and this condition has persisted up to the last report, which was five months after the operation. For some unexplained reason, however, the patient since operation has retained full control of the bladder function.

In view of the operative findings, it is difficult to see how the operation could have had any effect. One can only advance the suggestion that possibly the fixed scarlike dimple in the skin over the bifid spine resulted in a tug on the membranous posterior wall of the sacral canal and thereby affected some of the roots of the cauda equina concerned with vesical function. If this was so, the separation of this puckered area from the underlying sacral canal, as carried out at operation, may have had the described effect on bladder control.

701 Madison Avenue.

MESENTERIC, OR ENTEROGENOUS, CYST

CHARLES STANLEY WHITE, M.D.
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The infrequency of the mesenteric, or enterogenous, cyst and the obscurity of the symptoms are indicated by citing the statement of Miller,[1] that but thirty-five cases were reported up to 1913, and in none of the cases was the diagnosis made prior to operation or necropsy.

The etiology remains clouded, diverse views still obtaining, chiefly expressed as dilatations of mesenteric lymphatics and sequestration of the enteric canal. Briefly stated, the histologic characters differ somewhat; the cyst wall is devoid of mucous membrane in several of the reported cases, and these have fostered the opinion that the growth is entirely mesenteric. In the majority, however, the lining of the cyst bears a close resemblance to the epithelium of the intestine, even to the extent of containing villi and muscle fibers. The tumor is invariably congenital and situated at the mesenteric attachment of the small intestine. By some it is believed to be an erratic development of Meckel's diverticulum.

The symptoms are those of a movable tumor or intestinal obstruction and frequently an amalgamation of the two entities, and it is because of its protean characteristics that the proper interpretation of the symptoms is not easy. So frank are its manifestations of obstruction that any other diagnosis is impossible in some instances, while, on the other hand, a movable tumor in any quadrant of the abdomen forces the conclusion that we are dealing with a floating kidney,

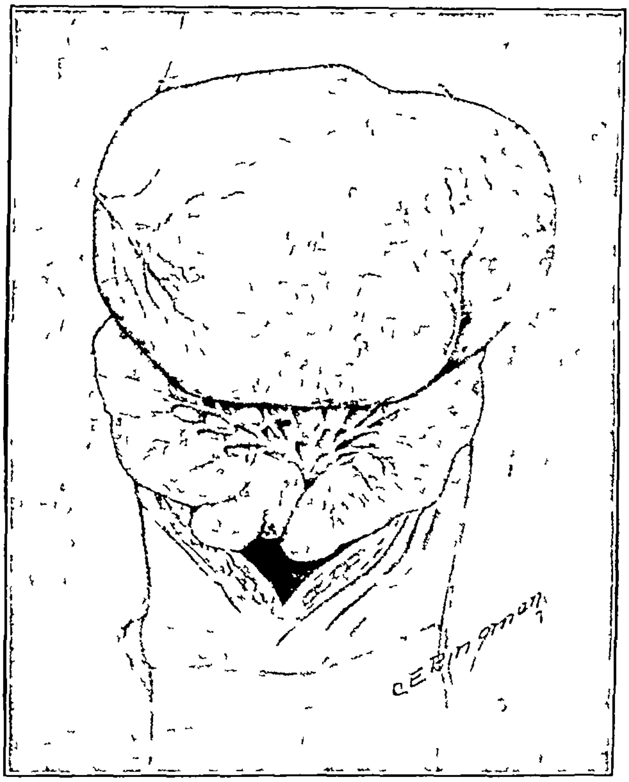

Fig. 1.—Intimate relation of cyst to intestine.

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[1] Miller: Bull. Johns Hopkins Hosp. 24: 316, 1913.

ovarian cyst, enlarged gallbladder or pedunculated uterine tumor So variable are the symptoms that few remain which are pathognomonic

REPORT OF CASE

A boy, aged 4 years, was first seen in December, 1914, and at this time no diagnosis was made Dr E P Copeland assumed charge of the patient and later reported the case It is with his permission that the following paragraphs are incorporated here

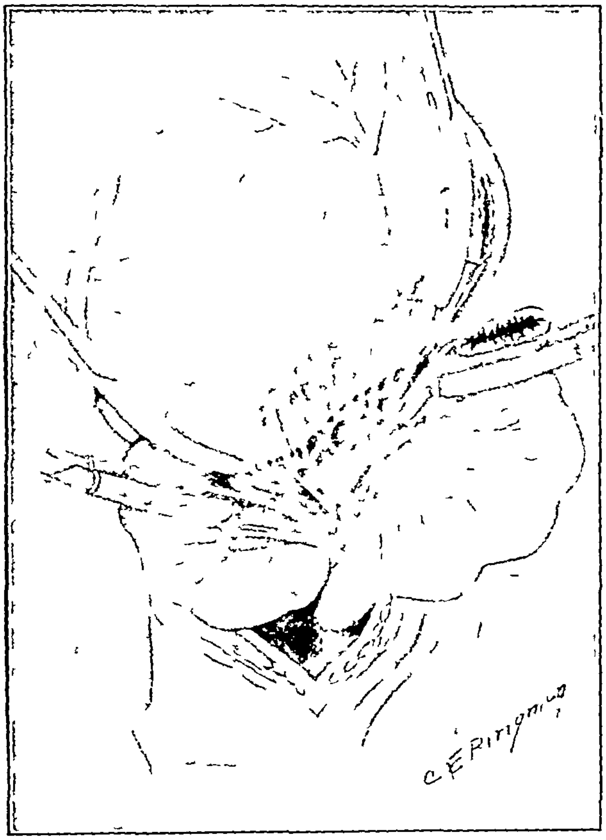

Fig 2 —Cyst detached

"In December, 1914, approximately a year before my first examination, the patient became suddenly ill in the night with an attack characterized by extreme nausea and severe vomiting and the appearance of a rounded tumor in the hypogastrium simulating a distended bladder The vomiting to judge from the description, was simply bile-stained gastric juice and at no time stercoraceous The tumor was elastic but not especially tender to touch There was no history of previous disturbance in the regularity of the bowel, as to constipation or diarrhea Fever was not present

'The physician called at the time had evidently made a diagnosis of intussusception and had completed plans for an immediate removal to the hospital for operation Returning a few hours later for the patient he had been as could be well imagined, much surprised to find that the mass had spontaneously disappared and the patient recovered

"After this initial appearance these attacks had recurred at varying intervals seldom less than three weeks and on several occasions as long as six weeks They had varied in the severity of associated symptoms and likewise in duration seldom however, lasting over two days The tumor had invariably appeared first over the region of the bladder, sometimes larger, sometimes smaller moved about the abdomen spontaneously and finally disappeared Its appearance had always been associated with nausea and vomiting and its disappearance with a pronounced paroxysm of abdominal pain Following the first attack there had been some tendency to constipation, but the bowels had been kept freely open by the daily employment of mineral oil by mouth The diet had been well regulated, and in the intervals the patient had quickly recovered lost weight. Ordinarily the child was quite normal played actively, and appeared in good health No prodromal symptoms had been observed

At the time of the first examination, I found the patient in bed lying on his back, thighs partially flexed The attack was several hours old and there was still some nausea Presenting in the hypogastrium was a smooth tumor about the size of an orange, elastic, but not tender to touch and dull on percussion It was palpable by rectal examination and suggested strongly a distended bladder The mass was however freely movable it being possible without undue force to manipulate it about the entire abdomen There was a fairly well-pronounced beading of the ribs The pulse rate was rapid but regular The temperature normal A leukocyte count gave 11 500 The von Pirquet and Wassermann tests were negative No further significant facts were observed

Under restricted feeding and large enemas slowly administered, the mass spontaneously disappeared An examination of the abdomen subsequently was absolutely negative

The roentgenologist made an exhaustive roentgen-ray study, and concludes his report in this manner

'Finding A tumor mass the size of a large orange is palpated in the right upper quadrant The bismuth injection showed the mass to be redundant descending colon Visualized palpation reduced the tumor '

Dr William Gerry Morgan in March 1917 examined the patient and found a movable tumor with intermittent attacks of intestinal obstruction At this time the hemoglobin was 83, red cells,-5 950 000, white cells 11 600 polymorphonuclears 67 5 per cent , lymphocytes 18 per cent. The urine contained albumin, indican, urea, 3 per cent , casts and excess of urates

Dr Francis Hagner saw the child in consultation, and suggested a possible cyst of the urachus

On operation, April 4 1917 an enterogenous tumor of the ileum was found about the size of a baseball It was impossible to shell it out and the only feasible operation was resection of the bowel The child made a smooth recovery and has been well since

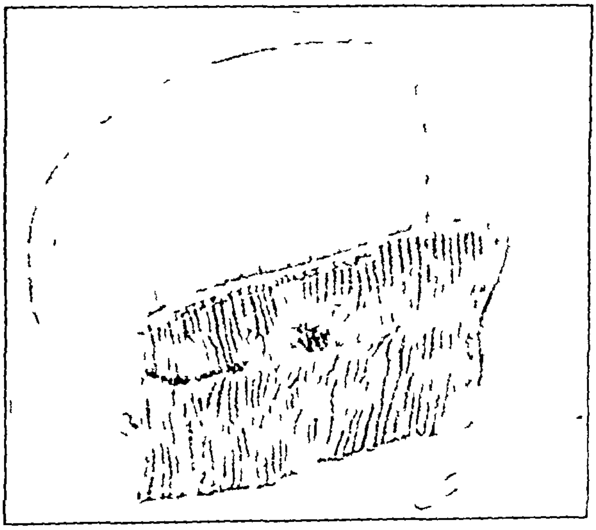

Fig 3—Interior of cyst

Dr Lindsay reported as follows

Large cyst with membranous attachment taken from the mesentery On gross section wall of cyst and mesentery have thickness of 0.5 cm Cyst wall resembles similar sections of thickened intestine or stomach wall There is a blood clot adherent to the wall internally directly [illegible]

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2 Acker G N and Copeland E P Transient Abdominal Tumor in a Child of Five Years with Redundant Colon Am J Dis Child **12** 602 (Dec.) 1916

the mesenteric attachment Sections in regions of blood clot show muscular and fibrous tissue with a hemorrhagic area corresponding to the clot The surface is covered with a layer of fibrin containing blood cells and a narrow layer at one point in outline resembling the intestinal mucous membrane, though gland elements are *not present* *Sections* at region of mesenteric attachment show quite well preserved layer of mucous membrane, long villi and deep crypts being definitely recognized Beneath this is a layer of muscle None of the sections show evidence of malignancy"

COMMENT

The symptoms were consistent with the conditions found at operation The tumor, while not communicating with the intestinal canal, probably varied in size at times owing to the torsion produced on either side when it rotated on an axis parallel with the intestine, and the same torsion was responsible for the enteric obstruction It may well be compared to a hammock which had been turned over, twisting its supporting ropes

The conspicuous and significant symptoms were the resilient, freely movable tumor with intestinal obstruction of an intermittent type, a low leukocyte count, sudden onset and rapid recovery in each attack, and the age of the patient, 6 years The roentgen ray was of no aid, but on the contrary was misleading, as the dilated colon noted in the roentgenologist's report was undoubtedly small intestine, filled by bismuth through an incompetent ileocecal valve

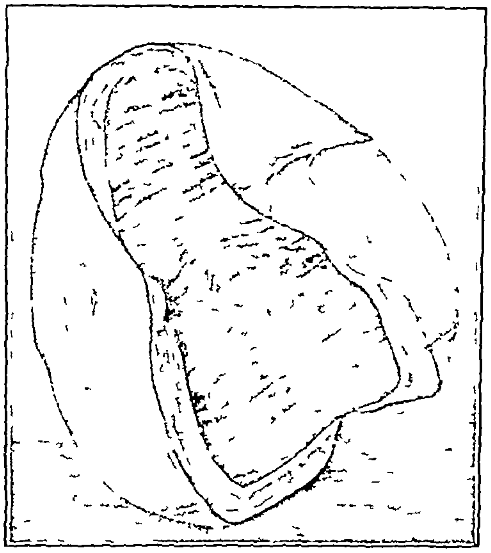

Fig 4 —Relative thickness of cyst wall

911 Sixteenth Street

Cleansing Arsphenamin Apparatus —Dr John B Donaldson, Lorain, Ohio, writes After giving arsphenamin or neo-arsphenamin injections I always disconnect the rubber *tubing* and run hot water through it for a few minutes as well as washing the glassware, but I have noticed that if the connected outfit is allowed to stand with distilled water in the arsphenamin side, quite a yellow tinge develops in the water This indicates that there may be sufficient arsphenamin or *neo-arsphenamin in* the container and tubing to decompose and produce a toxic reaction at the next administration unless thorough washing is done I have recently run sterile distilled water through the outfit before using as an extra precaution *It is to be inferred that we clean the* intravenous outfit before sterilizing it, but the point I wish to bring out is that the thoroughness with which it is done is more necessary than I had supposed

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THE MYENTERIC NERVE NET

A DISCUSSION

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From biologic studies it must be inferred that the *sole* reason for life—vegetable, animal and human—is to continue the species, and that man's superior brain and body are for the purpose of better protecting the germ plasm as well as for social life, the pleasure of work and the joy of mental effort We worship the mind and its products, and outwardly we suppress the instincts begotten by Nature We might be deprived of all but the essentials, circulation, digestion and reproduction, and yet maintain the race as do the lower animals Man lives but to propagate

These primitive essentials, all important for life and its perpetuation, are carefully secluded and separated from the outward man, which is under the control of a wilful and highly developed nervous system such intercommunication as exists being entirely beyond the control of the mind The actions and functions of these three sets of organs are largely autonomic, and in the history of all time it is noted that they are the oldest

The biology of the kinetic systems of the heart and genitalia have been well stated, but not that of the enteric system

EMBRYOLOGY OF ENTERIC SYSTEM

About the end of the second week after fecundation, the first evidence of the stomach is found, the development of the intestine following out a definite plan of evolution As in early life we have the stomach without the intestine, so in early fetal life we have the stomach first, then from it extends progressively the intestinal tube down to meet the hindgut It has been evolving since the beginning of life and has felt the influence of conditions which tend to modify as well as create, so that the digestive apparatus, as a result of evolution, is the simplest and most perfect, the tissues entering into its structure being still primitive Evolution invariably develops simplicity of structure and function in the end, and in this instance there is no exception, but a wonderful demonstration of the relation of simple tissue to the essential needs of a highly developed animal

In the 10 mm embryo the circular muscular layer of the intestine is first demonstrated, the longitudinal layer appearing in the 75 mm embryo Between these two layers from the mesenchyme is developed a syncytium out of which further develops the intestinal tract On the inner side can be seen the spindle cell muscle extending to the circular layer, and on the outer side similar cells extending to the longitudinal layer In this mesenchyme develop all the other tissues which go to form the structure of the intestinal wall blood vessels, lymphatics, fibrous tissue and nerve net

Early in embryonal life there bud out ventrally from the spinal ganglions prolongations which become the sympathetic plexus From it, cells migrate farther inward to the intestinal tract to enter its structure From the hind brain (the intestine being close to it in early life) there wanders a nerve which also passes to the intestine and through its walls, terminating in numerous gray ganglions approximated to the longitudinal layer Because of the wanderings of this nervous structure it is later called the vagus

As the intestine grows from above downward, it passes by an accumulation of nonstriated fibers, which eventually go to the skin and subdermal tissues Part of this dermal muscular mass is picked up by the intestine and carried down with it, later to be found at the three sphincter points pylorus, ileocecal and internal anus

We have a third type of muscular tissue developed in the intestinal tract To understand it, we must go back again to biology In the nine months during which the egg grows into the mature child, all the changes and steps which life has undergone in eons are recapitulated Morphologically and histologically, we see in the developing fetus much that can be found in the lower forms of life, and by studying low life we often come to a better understanding of conditions in the human

In the sponge, we have evidence of muscular action The microscope discovers no nerve tissue, but a muscle cell which is neuromuscular, having the properties of irritability, contractility and conductibility It will receive an impression, contract, and call on neighboring muscular tissue also to contract In forms higher up, such as the anemone and starfish, we find end organs which receive impressions and filaments that look like nerves running to the muscular cell Somewhat higher in the scale we find ganglions, so that we have a nerve ganglion connected with muscle resulting in more efficient action This type of nerve is called neuroid

From the processes of development and from microscopic demonstrations one would judge that the neuroid fibers developed from the muscular Certainly with this type of muscular tissue there is a great deal in common Keith has discovered in the intestinal tract this primitive type of neuromuscle, particularly noticeable at points of polarization the cardiac end of the stomach, pylorus, ileocecal region and large intestine This neuromuscular tissue is difficult to differentiate from nerve tissue

Through the entire intestinal tract, from the beginning of the smooth fiber muscles in the esophagus to the rectum, we find a definite close mesh of what has been called nervous tissue, discovered by Auerbach and named for him It is slender, flattened, covered by endothelial membrane and connected with the ganglions which are the termination of the pneumogastric and the terminal filaments of the sympathetic nerves It is also connected with the neuromuscular tissue of Keith

The deductions from Keith's work are that this plexus, or nerve net, is really a modified muscular tissue, a syncytium retaining its connections from early embryonal life, that it developed in the mesenchyme and from the mesenchyme, that it did not migrate in with the sympathetic nor with the pneumogastric nerve, and that it differs from other nervous tissue histologically, chemically, embryologically, biologically and in innervation and staining properties

It is analogous, if not similar, to the nerve net of the heart, which is connected with and activated by the sinu-auricular node and the bundle of His, which we know stimulate the heart action through the Purkinje fibers

It can be seen that in the intestinal tract we have developed conditions which will permit of slow and conservative adjustment to the vegetative processes demanded of it, that we have three types of muscular tissue which are serving a different purpose three types of nervous tissue, all coordinating and cooperating, yet independent

PHYSIOLOGY OF THE INTESTINE

The physiology of the intestine is that of its component parts We have, as stated before three types of smooth muscular cells in the body, and chemically and embryologically we note the difference In the skin, in the structures which have developed from the wolffian body and the duct of Mueller and in the sphincters of the intestine, we have the dermal type in the remainder of the intestine, in the heart and in the spleen, the second type, and in the neuromuscular tissue of Keith, the third All of these have different biologic properties and physiologic actions

All cell activity is maintained by the electrolytes circulating in the blood The sodium in particular has the property of developing electrical forces especially in the type of muscle cell we have under consideration The calcium electrolyte controls the effect of the sodium salt, if too active The several muscle cells react differently to this physicochemical process and all tissue of this type is constantly contracting and relaxing as a result of this stimulation It is termed embryonal because early in embryonal life, before there is any nerve tissue formed, the primitive muscle cells are contracting and relaxing This is seen in the cardiac tube and in the primitive stomach, and biologically we find the same conditions existing in lower forms of life

As the content of the stomach, acid in reaction passes into the duodenum and encounters an alkaline fluid, it effervesces and becomes frothy This increases the amount of distention and acts as an irritant to the muscle cell Myogenic contractions occur, contractions which are independent even of the nerve net They are slow, not forceful, and do not produce marked anemia of the substance Then there is gentle relaxation, this process is repeated until apparently fatigue of muscle ensues, then it stops and is taken up elsewhere in the intestinal tract This is the rhythmic movement of the physiologist If the distention is greater the nerve net is called into action and we have initiated the peristaltic wave, first noted by Cannon and best explained by Sherrington In the body, when the flexor muscle is called on for action, there is an inhibitory effect thrown on the extensor in order that the flexor may act This is true also in the intestine If a contraction is to be instituted in any part induced by the net, as the flow of nerve energy is always peripheral, toward the anus, there will be a relaxation of the muscles distal to the point of contraction, thus enabling the intestinal content to be more easily pushed forward

There are times when not only the circular but also the longitudinal fibers are brought into action This produces a peculiar motion which is termed the pendulum The neuromuscular cells are pace makers and tonus givers Contractility is not their only function They serve better to transform nerve energy into muscle action at certain points The tonus just distal to each point of polarizat[illegible] [illegible]uscle cell is always increased I[illegible] greater Peristaltic [illegible] section removed fro[illegible] shortens itself and curls over on the edges more than a section taken farther down. Placed in proper fluid, it will retain its rhythmic contractions much longer.

In the upper intestinal tract it is a wise provision, because there the enzymes are abundant and imperfectly mixed and proper digestion and chemical changes cannot occur. The tonus is poor in the lower part of the intestine in order that there may be delay and sufficient absorption of the chyme before it passes over into the large intestine.

The tonus of the large intestine is produced by the polarization of the terminal ileum. In all animals, particularly in those that eat vegetables, the cecum has a direct ratio to the stomach in importance. It is here, in the colon, that we have instituted absorption of fluids which control dehydration and calcium metabolism. The appendix as well as the cecum is highly provided with nerve net, the pneumogastric ganglions and smooth muscle fibers, controverting in this the prevailing sentiment that the appendix is degenerating.

The sphincter muscle is a law unto itself. The pneumogastric muscle has no effect whatever on it. Irritation of the sympathetic nervous system causes its contraction, and the only thing that will open the sphincter is the passing down of a proper peristaltic wave.

The sympathetic nervous system inhibits the activities of the intestine with the exception of the sphincters. When irritated, out of the chromaffin bodies we have secreted epinephrin, the hormone of the sympathetic nervous system, and all activity of the intestinal tract is quieted. It becomes flaccid, its tone is diminished, and there is distention of its lumen from its gassy content. This may be for a period of rest, or it may develop a pathologic condition when long continued.

The vagus is the motor nerve of the intestine. Biologically and physiologically it is a nerve of wondrous action, connecting up the different vegetative viscera, keeping up a proper activity and tonus. In some of the lower animals it is the activating nerve to the electrical organs, and we can appreciate how the electrical discharges down through this nerve (because all nerve force is electrical) to the ganglions, which are distributed through the entire nerve net, can induce so much tone and action.

There are times when this becomes very evident, in conditions which are known as peristaltic unrest, when the bowels are moving rapidly and continuously. If they contain gas, the noises are audible. Wave follows wave. Then, perhaps suddenly all is quiet. Again, there may be times when the sympathetic nervous system closes the sphincter, the pneumogastric nerve producing a peristaltic condition almost choreic, when for hours or days there will be a tremendous churning of the intestines. Gradually it will quiet down, the sphincter will open, and there will be the usual passage on of content.

There is a wave, appreciated only by delicate instruments, which runs down the entire length of the intestine. The veins of the intestine, as they pass through the fibrous tissue into the mesentery, are provided with valves, as are the lymphatics. Every time the intestine contracts, the blood is forced into the veins and up to the liver. Mall has studied this action very carefully, and considers that the intestine is the heart or circulatory organ of the liver, and the lymphatic system of the intestinal tract. In order that there may be circulation of blood and of lymph when the intestine is apparently quiescent, this wave, which comes down the entire length of the intestinal canal, acts and is a reminder of the primitive heart.

PATHOLOGIC CONDITIONS

In 1705, Hook published a work in which he suggested that it may be possible to discover the motions of the internal parts of the body by the sounds they make. Cannon, it is said, used to retire with his stethoscope on his abdomen, going to sleep listening to the sounds and studying them. Some of our writers state that auscultation of the abdomen is valueless and nothing important is heard or discovered, but I have made it a point for a number of years to auscultate every abdomen that has any enteric process. Generally, little of value is heard, but there are times when conditions are noted which are of immense importance. Conditions of peristaltic unrest are not understood except through auscultation. Simulations of intestinal obstruction can be differentiated only in this way. The atonic state of the intestine, so common in women, will give us sounds that are a clue to the condition existing.

When there seems to be a true ileus, when we have a case of "acute abdomen" in which we suspect obstruction, frequent auscultation is of much value. As soon as we hear a tinkle, then we should feel quite sure that an operation will be demanded, or if on putting the ear just above the pubes, we hear the heart sounds as distinctly as at the epigastrium, there should not be an hour's delay. It is possible that by frequent and studied observation of the sounds of the abdomen more points of importance may be discovered.

The myenteric net, being partly nerve tissue and partly neuromuscular, and being indirectly connected with the nervous system, is completely autonomic. It is a separate nervous system, controlled to a certain extent and kept within bounds of energy action by the sympathetic nervous system on the one side and by the motor nerve, the vagus, on the other. Most of the work the intestine is called on to perform is accomplished through the nerve net. Stimuli coming to it from the intestine, and chemical irritations of the mucous membrane to the terminal filaments of nerve there, may pass up to the submucous plexus and then on to the myenteric net.

The activities of this net are more pronounced and more easily induced when put on a stretch—an inheritance from its ancestors in lower life. If the intestine is exposed to the air, there follows a rapid evaporation of the carbon dioxid from the contained fluids (carbonic acid being the hormone of the nerve net, the same as epinephrin is of the sympathetic, and as cholin, a derivative of lecithin, seems to be of the vagus). Without the carbonic acid in the substance of the intestinal wall, there is inactivity of the nerve net, a paretic condition lasting indefinitely, and an inability to contract against the gases formed in the intestinal lumen, working toward the condition surgically known as ileus.

The intestine is a mesial organ. It is very long, and in its development it takes on convolutions, the large intestine passing over to the right and descending, ordinarily becoming attached to the posterior wall without a mesentery, the cecum being found at the brim of the pelvis. In this region there are perhaps more defects of development than in any other part of the body. Sometimes it is an overgrowth of cecum, allowing it to drop deeply into the pelvis, with the production of a certain amount of drag and disturbance of the sensitive polarized area at the terminal ileum.

The intestine is held in position by embryonal bands, some passing over to the colon and giving it support, others passing up on the mesentery of the terminal end of the ileum. The cecum is generally free. The stress of the upright position may occasionally convert this normal fibrous tissue into pathologic tissue, later contracting, and in its contraction disturbing the relations of the intestine and apparently interfering with its action.

The roentgenologist in viewing the upper abdomen discovers dilated duodenums, and the surgeon also has noted the frequency of this condition. Both find a correlation between it and that which disturbs the tissues at the ileocecal region, whether bands or ptosis. Every case of ceco-appendicular deformity, so called chronic appendicitis, met in my experience, has been associated with dilated duodenum, disturbed gastric action and gastric flatulence, often associated with a type of cholecystitis, and not infrequently with a spastic condition of the descending colon.

It is curious to look back into the history of this region and see how at one time we regarded these bands and attachments as being primarily pathologic. Only a year or two before the war, Lane was removing the entire colon for what he called not an anatomic but a physiologic perversion: mutilating surgery which seems today quite unnecessary, for certainly very few colectomies now take place, and those who used to exhibit their long tubes now keep them in their darkest closet.

Before attempting to relieve a person of distressing symptoms by operative means which may be mutilating, we should try to gather in our minds with great accuracy the conditions which may be the origin of the trouble, and to know the component parts of the myenteric net and their functions, as well as their pathology.

One forceful thing was recently brought out by Crile, namely, that sturdy exercising in the open, building up the musculature of the body, making it stronger by feeding it more oxygen, had a very evident effect on the intestine. Consequently there must also be some effect on the neuromuscular tissue and the nerve net.

CONCLUSION

A few generations ago the physician occupied the whole field, both medicine and surgery; then gradually the specialties developed. As medicine grew, the result of animal experimentation and growth of other sciences, specialties grew, so that now we have an overgrowth of specialization, with a tendency to build a trench around each. In all these years we have been taught of the microcosm and the interrelation of tissues, yet in our active work we practically forget it. The time has come when we must accede to the overlapping, and in our practice as well as in our writings begin to knit the different specialties together, so that practice and study may not be warped by a biased point of view. The working out of this paper was greatly embarrassed because of the fact that the embryologist paid little attention to histology, and neither he nor the histologist to physiology. Comparative anatomy was seldom referred to, yet a knowledge of them all is necessary for a proper understanding of the architecture and function of the myenteric nerve net.

280 Montgomery Street.

INTRATHORACIC HODGKIN'S DISEASE
ITS ROENTGEN DIAGNOSIS

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AND

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The typical case of Hodgkin's disease with its enlargement of external lymph nodes is readily recognized as such clinically. The disease assumes at times, however, clinical types which may deviate from the usual form. Uncertainty of diagnosis may then arise, especially in the cases in which external lymphomas are poorly developed or absent. We have especially in mind the cases of abdominal Hodgkin's disease, or the splenomegalic form, in which the diagnosis may remain in doubt for some time unless external lymph nodes are available for section.

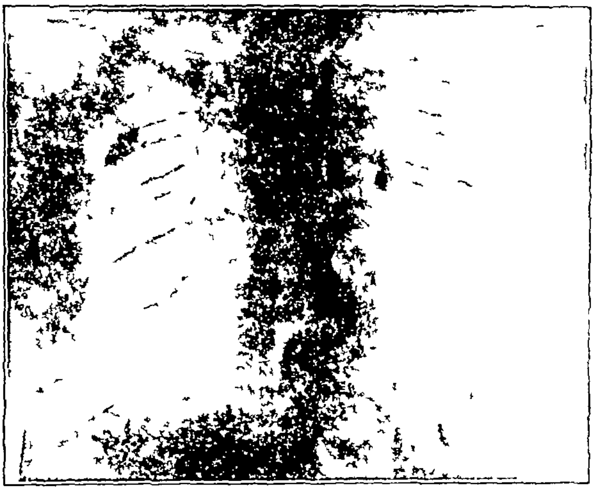

Fig. 1.—Mediastinal tumor type.

In view of the known frequency of involvement of the intrathoracic lymph nodes it is not unnatural to suppose that an examination of the chest might furnish some clarifying data in these doubtful or atypical cases. When we take stock, however, of the means at our disposal for the recognition of intrathoracic Hodgkin's disease, the limitations of the ordinary physical examination become apparent. Usually only the large tumor-like masses in the chest, by their size and location, are calculated to produce symptoms and physical signs, and even these may remain latent. Further, these signs and symptoms may furnish by themselves no clue to the nature of the disease, as they are common to all forms of mediastinal or pulmonary new growth. We have accordingly availed ourselves of the roentgen-ray examination in the study of twenty-five cases of Hodgkin's disease in order to determine the frequency of intrathoracic involvement and especially to ascertain whether the roentgenogram offers anything characteristic which may be of help in the diagnosis of doubtful and atypical [illegible]

In the first place changes [illegible]
of Hodgkin's disease are f[illegible]
Thus in the twenty-five [illegible]

dence of enlargement of the intrathoracic nodes or involvement of other lymphatic tissue was invariably found in the roentgenogram It should be emphasized at this point that by enlargement of the bronchial nodes is to be understood, not the adenopathy normally and regularly found in adults, but rather an alteration in the size, shape and density of the shadows which leaves no doubt as to the existence of disease

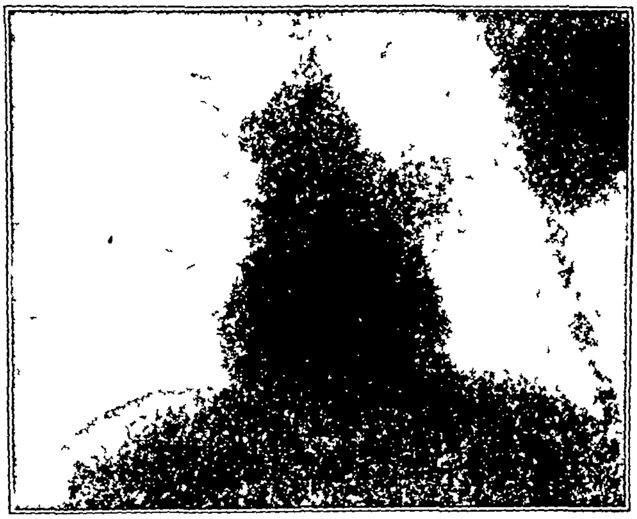

Fig 2—Infiltrative type

TYPES OF INTRATHORACIC HODGKIN'S DISEASE

The changes which we have noted on the chest plates of cases of Hodgkin's disease may be classified under four types, the significance and frequency of which will be indicated

1 *Mediastinal Tumor*—Thoracic Hodgkin's disease may appear on the roentgen plate typically as a mediastinal tumor Large massive shadows are seen extending outward from the mediastinum into the lungs, they have smooth or lobulated borders and show little or no evidence of the individual component lymph nodes (Fig 1) Such shadows were present in eight of the cases By themselves they offer nothing characteristic of Hodgkin's disease and cannot be distinguished from other mediastinal growths, such as lymphosarcoma

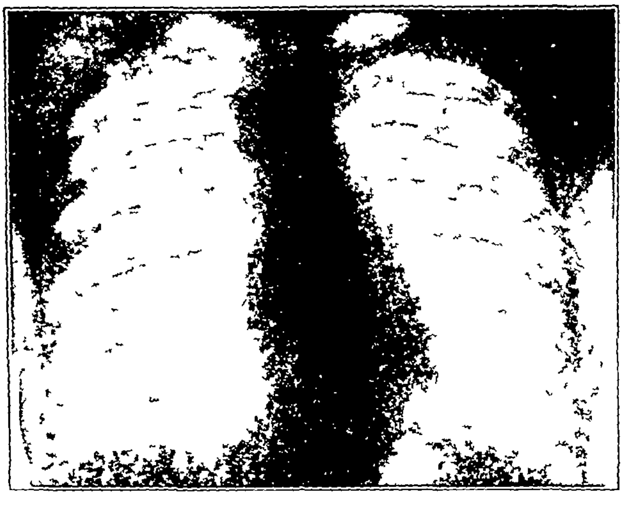

Fig 3—Isolated foci in right and left lungs large bronchial nodes and paratracheal nodes

2 *The Infiltrative Type*—In this form of Hodgkin's disease the lymphomatous tissue appears to invade the neighboring lung very much as a malignant neoplasm (Fig 2) It is doubtful whether this is a true invasion of the lung, it is not improbable that in this form of the disease there is a diffuse transformation of the intrapulmonary lymphoid tissue into granuloma However, on the roentgen plate the borders of the apparently infiltrating mass are indistinct and irregular and appear to grow into the lung This is an infrequent form of the disease, and it occurred in only four cases

3 *Isolated Nodules or Metastases in the Lung*—In a small number of cases there are seen in the pulmonary fields, and having no connection with the mediastinum, circular or oval shadows of moderate density They are usually small, from one to several centimeters in diameter By themselves, they are not to be distinguished from metastatic new growths in the lungs (Figs 3 and 4)

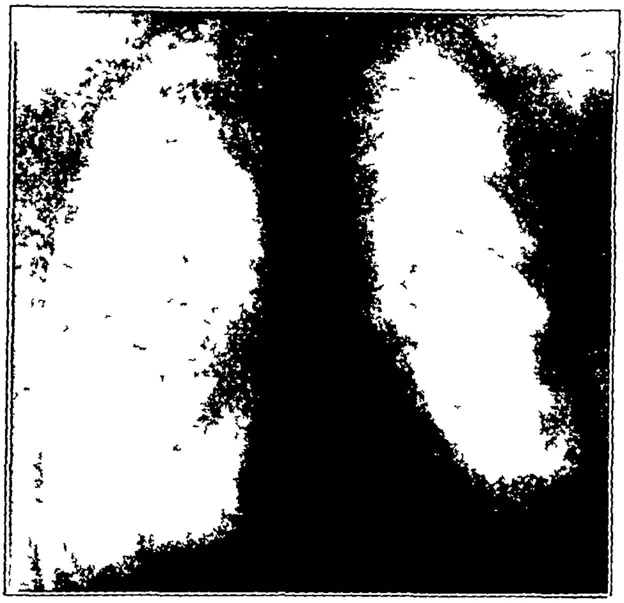

Fig 4—Large right bronchial nodes small isolated deposits in right upper lobe and in left lower lobe large substernal thyroid

The invariable presence, however, of lymphomatous masses at the roots of the lungs, next to be described, usually renders possible their recognition as a form of Hodgkin's disease This type was found in four cases, always in association with one of the other forms of the disease In accordance with the commonly accepted belief, these shadows do not represent true metastases, but are rather autochthonous foci developing in preexisting pulmonary lymphoid tissue

4 *Discrete Nodes at the Roots of the Lungs*—The most common form of Hodgkin's disease of the chest is the analogue of the external glandular enlargement and consists, like it, of masses of more or less discrete nodes at the roots of the lungs It was present in seventeen cases On the roentgenogram it provides, in typical cases, some points of distinction from other forms of adenopathy

The shadows extend often for a considerable distance from the roots of the lungs, and individual nodes or groups of nodes retain their outline It is characteristic of the shadows that they are faint, and in this respect they differ from those of new growth and tuberculosis They are particularly distinguishable from the latter by an absence of caseation and calcification Tuberculous nodes, when they have achieved the size of those found at the hilum in Hodgkin's disease, are invariably cheesy, and the shadows are irregular and of great density For this reason, large lobulated shadows at the roots of the lungs which are faint and homogeneous raise a strong presumption of Hodgkin's disease, a presumption which will be strengthened if there are found outlying deposits in the lungs, such as were described under Type 3 The various groups of nodes may be involved, the bronchial, bifurcation or bronchopulmonary (Figs 4, 5, 6 and 7) Of greatest interest, however, is an involvement of the right paratracheal nodes which occurs so frequently in Hodgkin's disease as to acquire a major importance in the diagnosis It occurred in no less than fourteen cases, either alone as a solitary manifestation of intrathoracic disease or, as was usually the case, in association with the other forms of the disease previously described (Figs 3, 5 and 7)

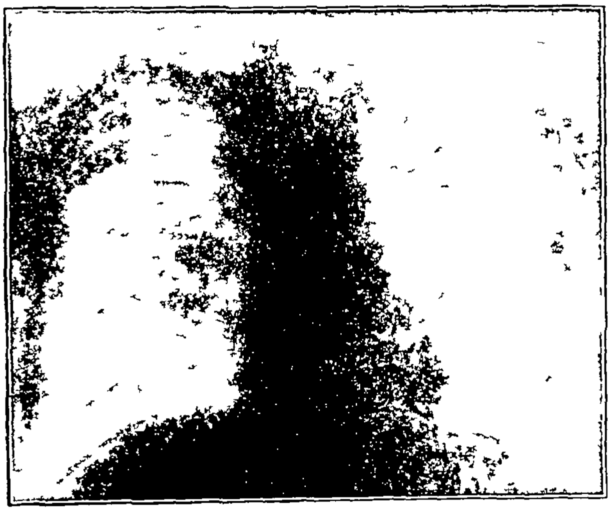

Fig 5—Large lymphomatous mass at the root of the right lung very large paratracheal nodes case clinically simulated splenic anemia

ENLARGEMENT OF PARATRACHEAL NODES

Enlargement of the paratracheal nodes is such a relatively rare phenomenon in intrathoracic disease as to warrant a slight digression at this point Normally there is found on the right side of the trachea, just above the eparterial bronchus, a small group of lymph nodes Owing to their deep situation, when they become enlarged they cannot be felt by palpation, nor do they produce physical signs A moderate enlargement of these nodes, however, becomes noticeable on the roentgenogram by the production of a characteristic shadow It is remarkable that the paratracheal nodes rarely participate in the enlargement of other groups of intrathoracic nodes In a large number of cases of pulmonary and mediastinal new growths which have come under our observation, the paratracheal nodes were involved only once, and in this case they were only slightly increased in size In pulmonary tuberculosis in adults in whom the bronchial nodes are usually affected, we can recall perhaps two or three cases of many thousands in which the paratracheal nodes were involved In infants and children, on the contrary, these nodes are more often affected by the tuberculous process, and they may then achieve a considerable size and give rise to dyspnea and stridor

In Hodgkin's disease, these nodes appear on the plate as an oval shadow situated always to the right side of the trachea, in the upper mediastinum and below the sternal end of the clavicle It varies in size from that of an almond to a hen's egg, and it is homogeneous in density

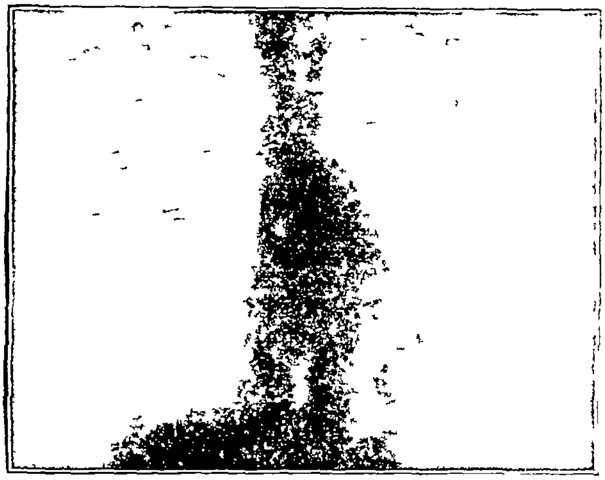

Fig 6—Large masses of nodes at both roots on the left side extending beyond the left border of the heart small paratracheal node

We believe that the great frequency of involvement of these nodes in Hodgkin's disease, occurring in more than 50 per cent of our cases, and its great rarity in other diseases with which it may be confused may be of value in the diagnosis of obscure cases We have in mind particularly those cases of splenic and abdominal Hodgkin's disease in which external glandular enlargement does not appear prominently in the clinical picture A case of this type is illustrated in Figure 5, in which the enormous spleen overshadowed the few cervical lymph nodes and simulated a splenic anemia

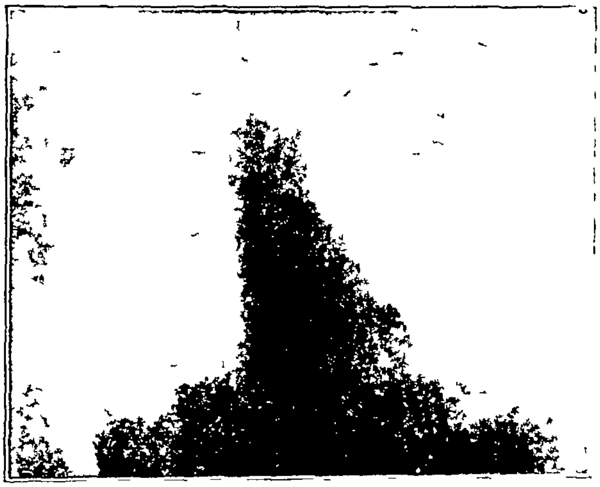

Fig 7—Large paratracheal nodes lymphoma at the right root small isolated foci in the right upper lobe

The paratracheal nodes may be involved relatively early in the disease On the other hand they may persist after treatment when practically all other lymph nodes have receded In a recent [illegible] recurrence developed at the angle of the jaw several years after apparent cure by roentgen-ray treatment, the plate showed the paratracheal nodes enlarged to the size of a walnut

CONCLUSIONS

1 A large percentage of the cases of Hodgkin's disease have demonstrable intrathoracic lymphomas

2 Although the roentgenogram in some cases presents nothing characteristic, in a considerable number a distinction from other forms of new growth or glandular enlargement can be made

3 There is a frequent and unique enlargement of the right paratracheal group of nodes which occurs only rarely in other diseases

4 In doubtful or atypical cases of Hodgkin's disease, the roentgen-ray examination of the chest may help to establish the diagnosis

5 Roentgen-ray examination of the chest should be performed in all cases, before they are pronounced cured after treatment

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HEMOLYTIC STREPTOCOCCI IN THE NORMAL THROAT AFTER TONSILLECTOMY *

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The rôle of hemolytic streptococci, especially as secondary invaders in such diseases as influenza, lobar pneumonia and measles, has been constantly emphasized in the reports of civil and military medical observers during the last two years Hence it is a matter of importance to learn of the distribution of these organisms in normal throats under various conditions

While most observers believe that the tonsils are often the site of growth of these organisms in normal throats, some maintain that even in normal throats the tonsils are practically always infected with hemolytic streptococci There have recently been a number of reports of the incidence of hemolytic streptococci in normal nontonsillectomized throats as well as in throats after tonsillectomy However, the results of many of these observations do not have much comparative value because of the failure of the investigators to include technical details in their reports In 1906, Ruediger[1] found hemolytic streptococci in about 59 per cent of normal throats, and Smillie[2] in 1917 reported very nearly the same proportion (50 per cent) Since 1917 there have been many reports Fox and Hamburger,[3] and Levy and Alexander[4] found that about 15 per cent of recruits and about 83 per cent of men who had been in service for some months were *Streptococcus hemolyticus* carriers, as shown by throat cultures Surface smears from the tonsils and throats under various conditions have shown hemolytic streptococci to be present in normal throats in varying proportions of cases Seventy per cent were found positive by Irons and Marine,[5] 6 per cent by Cumming, Spruit and Lynch,[6] 28 per cent by Nichols and Bryan,[7] 22 5 per cent by Opie and his co-workers,[8] 44 5 per cent by Blanton, Burhams and Hunter,[9] 47 per cent by Simmons and Taylor,[10] 58 per cent by Pilot and Davis,[11] and 57 per cent by Tongs [12] Blake[13] reports that in the absence of streptococcus epidemics less than 10 per cent of normal men in army camps harbor hemolytic streptococci in their throats, but that this proportion is increased by from 300 to 400 per cent during streptococcus epidemics It has also been shown that only cultures of the crypts of excised tonsils may reveal the organisms Nichols and Bryan[7] obtained positive crypt cultures in 75 per cent of excised tonsils Pilot and Davis[11] found that while hemolytic streptococci could be detected by surface swabbings of the tonsils in 61 per cent of their cases, crypt cultures of the same hyperplastic tonsils after excision showed 97 per cent to be infected by the organism Similarly Tongs[12] pointed out that surface cultures of unexcised tonsils showed hemolytic streptococci in 60 per cent of the cases, and that crypt cultures showed the organism in 83 per cent of the same tonsils Hence it is probable that in normal tonsils and throats hemolytic streptococci occur in even higher proportions than have been indicated

The proportion of hemolytic streptococci in normal throats after tonsillectomy has been reported as being 13 per cent by Nichols and Bryan,[7] 23 per cent by Simmons and Taylor,[10] 15 per cent by Pilot and Davis,[11] and 5 per cent by Tongs [12] All investigators who have examined throats after tonsillectomy agree that such throats harbor far fewer hemolytic streptococci than nontonsillectomized throats I wish to report some observations on the incidence of hemolytic streptococci in the throats of tonsillectomized individuals in good health (Table 1)

TECHNIC

All throat cultures were thus made A sterile cotton swab was gently but thoroughly rubbed against the walls of the tonsillar spaces, over the pharyngopalatine arch and the posterior wall of the pharynx, and at once used to inoculate an enrichment broth This consisted of from 5 to 6 c c of plain broth (made with 15 gm of Fairchild's sugar-free culture peptone, 5 gm sodium chlorid, and distilled water sufficient to make 1,000 c c), to which had been added from 6 to 8 drops of defibrinated goat's blood The organisms were cultivated for twenty-four hours in the enrichment broth, after which surface smears were made on 1 7 per cent agar containing about 10 per cent of defibrinated goat's blood, and shake cultures were prepared by inoculating and plating at 45 C tubes of blood agar of similar composition Like Tongs,[12] I found a somewhat larger proportion of hemolytic streptococci by the shake method than by the surface smear method The plates were cultivated and observed for forty-eight hours Organisms from hemolytic colonies when present were inoculated into plain broth made as described, and after twenty-four hours' cultivation were again plated in blood agar by the shake method to observe the purity and hemolytic action of the strain At the same time the staining reactions and morphology of the broth cultures were studied From the same broth cultures blood agar slants of 1 7 per cent agar containing about 5 per cent of defibrinated goat s blood were inoculated and kept at a temperature of 37 C for twenty-four hours, after which they were sealed with paraffin and corks and placed in an ice-box for later use in fermentation tests

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* From the John McCormick Institute for Infectious Diseases

[1] Ruediger G F Streptococci from Scarlatinal and Normal Throats J Infect Dis **3** 755 1906

[2] Smillie W G Studies of Beta Hemolytic Streptococci J Infect Dis **20** 45 (Jan) 1917

[3] Fox Herbert and Hamburger W W The Streptococcus Epidemic at Camp Zachary Taylor Ky J A M A **70** 1758 (June 8) 1918

[4] Levy R. L and Alexander H L Predisposition of Streptococcus Carriers to the Complications of Measles J A M A **70** 1827 (June 15) 1918

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[6] Cumming J G Spruit C B , and Lynch Charles The Pneumonias Streptococcus and Pneumococcus Groups J A M A **70** 1066 (April 13) 1918

[7] Nichols H J and Bryan J H The Tonsils as Foci of Infection in Streptococcus Hemolyticus Carriers J A M A **71** 1813 (Nov 30) 1918

[8] Opie E L Freeman A W Blake F G Small, J C and Rivers T M Pneumonia at Camp Funston J A M A **72** 108 (Jan 11) 1919

[9] Blanton W H Burhams C W and Hunter, O W Studies in Streptococcus Infections at Camp Custer Mich J A M A **72** 1520 (May 24) 1919

[10] Simmons J S and Taylor R E Bacterial Carriers in the Upper Respiratory Tract J A M A **72** 1885 (June 28) 1919

[11] Pilot I and Davis D J Hemolytic Streptococci in Faucial Tonsil and Their Significance as Secondary Invaders J Infect Dis **24** 386 (April) 1919

[12] Tongs M S Hemolytic Streptococci in the Nose and Throat J A M A **73** 1050 (Oct 4) 1919

[13] Blake F G Relation of Streptococcus Hemolyticus Carriers to Streptococcus Epidemics in the Army, Ann Otol Rhinol & Laryngol **28** 361 (June) 1919

TABLE 1—EXAMINATION FOR STREPTOCOCCUS HEMOLYTICUS

Case No *	Age	Occupation	Time Since Removal of Tonsils	Result of Examination
1†	25	Medical student	6 months	+β
2	31	Physician	9 years	+α
3†	23	Medical student	8 months	+β
4	24	Medical student	3½ years	+α
5	24	Medical student	2 months	—
6	26	Physician	3 months	—
7	24	Housewife	4 months	+α
8	26	Medical student	7 months	—
9	24	Medical student	2 months	+α
10‡	29	Physician	2 years	—
11	25	Medical student	11 years	—
12	27	Physician	6 months	+α
13†	26	Physician	6 months	+β
14	26	Physician	6 months	+α
15	25	Medical student	10 months	+α
16	25	Physician	3 years	—
17	26	Physician	2½ years	+β
18	25	Physician	3½ years	—
19	24	Physician	2½ years	—
20†	25	Medical student	10 months	+α
21	21	Medical student	1 year	+α
22	23	Medical student	2 years	—
23	23	Medical student	—	—
24	24	Physician	7 months	—
25	35	Physician	5 year	+α
26	22	Clerk	—	+β
27	24	Medical student	2 years	—
28	20	Formerly a sailor	1 year	—
29	31	—	2 years	—
30†	24	Medical student	9 days	—
31	22	Medical student	6 months	—
32	24	Medical student	7 months	—
33	25	Medical student	8 months	+β
34	11	School girl	2 months	—
35	12	School girl	2 months	—
36	26	Physician	4 years	+α
37†	12	School boy	2 weeks	+β
38	7	School girl	3 months	+β
39†	24	Medical student	7 months	+α
40	24	Medical student	2½ years	+α
41§	22	—	5 years	+α
42	28	Medical student	2 years	—
43	23	Medical student	1¼ years	+α
44	27	Physician	2 years	—
45	27	Physician	6 months	—
46	16	Student	7 years	—
47	22	Medical student	9 years	—
48§	23	Medical student	12 years	—
49†	22	Student	8 years	—
50	21	Student	10 years	—
51	20	Student	4¼ years	—
52	22	Student	3 years	—
53	24	Student	15 years	+α
54	21	Student	5 years	—
55	19	Student	7 years	+β

Cases 7 34 35 38 and 55 were female all others were male The general condition of all was good

** In this column +β indicates presence of Streptococcus hemolyticus β +α presence of S hemolyticus α and — negative result

† Throat somewhat inflamed

‡ Lingual tonsil present

§ Some regeneration from tonsillar remnants

The hemolytic streptococci found were gram-positive organisms which in broth formed chains of from five to sixty cocci, each strain forming chains of approximately the same length Definite differences in the size of the individual cocci were common On blood agar were noticed chiefly two types of colonies one markedly hemolytic the individual colonies being surrounded after twenty-four hours by a hemolytic zone from 2 to 4 mm wide and another considerably less hemolytic its surrounding hemolytic zone being less clear and usually only about 1 mm wide Microscopic examination of these colonies under low power revealed the fact that, while all of the corpuscles in the hemolytic zone of the first type of colonies were completely hemolyzed, hemolysis was not quite complete in the hemolytic zone of colonies of the second type and at the same time the corpuscles which were not hemolyzed were little discolored The first type of colony resembled that described by Brown[14] as the colony of the Beta (β) type of hemolytic streptococcus the second resembled Brown's[14] Alpha prime (α) type of hemolytic streptococcus The organisms are so designated After cultivation in the enrichment medium almost always there was a great preponderance of either the Alpha prime or the Beta type of organism when either was present

FERMENTATION TESTS

In the performance of the fermentation tests one loopful of a twenty-four hour broth culture of hemolytic streptococci from preserved blood agar slants was transferred to from 1 to 2 c c of the carbohydrate broth (plain broth as described, to which was added each to the amount of 1 per cent 5 per cent litmus solution and carbohydrate) No raffinose was available Observations were made over a period of eight days although the fermentation reaction was practically always plain after three days Twenty-one strains were tested by the fermentation reactions, and the results are illustrated in Table 2

TABLE 2—RESULTS OF FERMENTATION REACTIONS

Number of Strains	Glucose	Lactose	Maltose	Mannite	Plain	Saccharose	Salicin	Inulin
8	+	+	+	—	—	+	—	—
13	+	+	+	—	—	+	+	—

COMMENT AND CONCLUSIONS

In the series of tonsillectomized throats of individuals in good health it was found that in nine or 16 4 per cent, there were markedly hemolytic streptococci In sixteen, or 29 per cent of the throats were the less markedly hemolytic streptococci resembling Brown's[14] Alpha prime type Thirty or about 55 per cent, of the throats examined revealed no hemolytic streptococci There seemed to be no significance in the time elapsing between the removal of the tonsils and the bacteriologic examination of the throat for hemolytic streptococci In several of the cases the Beta type of hemolytic streptococci was present in the absence of clinically visible changes in the throats The fermentation reactions of these streptococci were typical of hemolytic streptococci According to the classification of hemolytic streptococci by fermentation reactions as suggested by Holman[15] the organisms tested would be divided into two groups *Streptococcus anginosus* (fermenting lactose but not mannite and salicin) and *Streptococcus pyogenes* (fermenting lactose and salicin but not mannite)

The method employed in this work differs from that of most investigators in that a routine preliminary cultivation of the throat cultures in blood broth was made While some reports mention streptococci ho hemolytic action is incomplete (Alpha prime type), none give very definite data on the proportion of such organisms The Beta type of hemolytic streptococcus is probably the type referred to by most authors as hemolytic Hence my findings, namely, that 16 4 per cent of the tonsillectomized throats harbored markedly hemolytic streptococci, while higher than those of Tongs[12] and lower than those of Simmons and Taylor,[10] agree quite closely with the observations of Nichols and Bryan,[7] and Pilot and Davis [11]

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[14] Brown J H The U[illegible] of Blood Agar [illegible] cocci Monograph [illegible] Rockefeller In[illegible]

[15] Holman W L [illegible] J [illegible] 34 [illegible]

THE REHABILITATION OF A MEDICAL RESERVE FOR THE ARMY *

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AND

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The United States Army is now facing what may appropriately be characterized as a period of critical transition Demobilization of the vast war machine built up during the past two years has been more or less successfully accomplished

The permanent personnel of the regular establishment would welcome a speedy return to a peace time basis and the development of a military organization capable of functioning efficiently In one of the hearings before Congress, not long ago, some one tritely remarked that nearly every permanent officer these days is carrying about in his pocket an army reorganization bill — the figment of his own fertile imagination It is to be hoped and confidently can be predicted that the Congress, by avoiding the "extremists," will hit on a happy medium and enact a law that will permit the army to develop along the lines which the experience gained in the world war has demonstrated will best meet the needs of our national ideals What is most earnestly to be hoped for is a law which will provide the framework of a real military policy—that will-o'-the-wisp which has always eluded us Even an imperfect plan is better than none at all Nations, like individuals, require a goal at which to aim As a nation we have for a moment had a vision which has fired us to supreme effort Are we going to lapse back into the old habit of drifting with the current, or are we going to remember the thousands of young men we have left behind in France and turn our thoughts to a constructive program which, if it does not keep us out of wars in the future, will at least prevent the needless sacrifice inseparable from our chronic state of unpreparedness?

Diligent efforts are being made by our national legislators to get at the meat of the nut and formulate a basic military law embodying as many as possible of the good features developed by our experience in the world war, and eliminating, or at least trying to eliminate, such defects as have been demonstrated

"In time of peace prepare for war" still holds good We fervently hope that the present generation has seen the last of war on a big scale Nevertheless, we are not prepared to admit that the millenium has arrived or that an army's usefulness, in spite of its *raison d'être*, terminates with a war, although a study of our military history would indicate that that belief is very generally held An individual applying the same reasoning would discontinue all life insurance on recovery from a dangerous illness on the theory that all risk of death had passed From out the welter of the past few years the one fact which must have been impressed on the mind of every American is the utter folly of ignoring the basic principles of national preparedness and national defense, and calmly awaiting a declaration of war before attempting even to assemble, train, equip and properly classify and distribute the enormous number of men called to the colors Such a policy pursued long enough will certainly result in our undoing We cannot always hope to find some other nation willing to step into the breach and hold off the foe for years while we fumble and grope, legislate and investigate, waste human lives because we have no clothing or blankets, and spend billions of dollars without visible result in a belated and frenzied rush to prepare Constructive legislation is rendered increasingly difficult after each war War loans place a heavy burden of taxation on the citizen, and therefore public expenditures must be curtailed For many years before the late war, army appropriations were rather less than 10 per cent of the interest now being paid on our war debt Tax payers grumble but accept the situation philosophically, never pausing to analyze the matter sufficiently to see that a more generous and broad-minded treatment of the question of national defense in the past would in all probability have obviated the necessity of raising billions on billions of money to prosecute the war just ended

Today all branches of the military service are confronted with important and pressing problems, on the wise solution of which our national safety in the future may rest It is proposed in this paper to present two of these problems which, while of moment to the whole military establishment, are vital to the Medical Department

FIRST PROBLEM ESTABLISHMENT OF ADEQUATE REGULAR MEDICAL CORPS

The Regular Medical Corps must be recruited up to its full authorized strength More than 700 vacancies now exist Under present conditions of pay and promotion, an Army commission seems destined to go begging Compared with the rewards now enjoyed by his brother practitioner in civil life, the career of his military prototype is one of relative renunciation It is freely granted that service conditions must be made much more attractive for the embryo military officer As a result of legislation probably to be enacted during the present session of Congress, in the matter of increase in pay and allowances and speedier promotion (Captain after three years' service), it is believed that we may soon be able to hold out to prospective candidates sufficient inducement for them to join the regular corps An additional incentive, the details for the practical application of which are now being studied and developed in the Surgeon-General's Office, and which was recently commented on editorially in THE JOURNAL,[1] will be a provision whereby properly qualified men in Class A medical schools, on the termination of their fourth year of study, can be offered internships, carrying pay, in our larger military hospitals—this with a view to affording them opportunity, while finishing their hospital year of gaining an insight into the different phases of military life and thus making the appointment a stepping stone to a commission in the regular corps Furthermore, the day may not be as remote as one might at first think when we shall have to resort to some form of governmental subsidy for the education of such medical students as may elect military careers on the termination of their classical courses, and decide to qualify as medical officers of the army under the financial assistance provided for them by the government With the Medical Corps of the permanent establishment up to its full authorized quota, our peace time obligations can be met

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* Note Jan 16 1920 —Time mellows all things Since completion of this article sentiment among the Medical Reserve seems to have undergone a very decided change for the better if the number of applications for commission now pouring into the War Department can be accepted as a criterion At this date a total of 8 000 Medical Reserve officers have already been enrolled and in addition there are about 4 000 applications on hand awaiting action —The Authors

[1] Securing Officers for the Army Medical Corps, editorial J A M A 73 1845 (Dec 13) 1919

SECOND PROBLEM ' ESTABLISHMENT OF AN ADEQUATE MEDICAL RESERVE

The second and more important problem has been made the title of this paper The number of names on the present roster of the Medical Reserve Corps is far from satisfactory From our experience in the recent war, it is obvious that it must be built up in time of peace to a point far beyond that ever achieved by us in the past

What are the prospects? Under present conditions we are constrained to confess that they are not very bright Let us briefly review some of the causes which lead us to entertain such a pessimistic conclusion

During the war there were enrolled in the army approximately 30 000 medical officers from civil life Prior to his discharge each officer was requested to signify his desire with regard to accepting a commission in the Medical Section of the Officers' Reserve Corps on the inactive list Excluding some 1,500 officers still in temporary service, the latest figures at hand reveal that only 5,000 medical officers from civil life who saw active service during war at home or abroad have so far elected further affiliation with our army reserve Of this number, when appointments were eventually sent out, about one third declined and returned the commissions offered them To be exact—to date (Dec 1, 1919) 3,787 acceptances and 1,261 declinations have been received[2]

In one representative list of declinations taken at random from the files of the Surgeon-General's Office and containing 327 names, the commissions sent out but declined were two in the grade of lieutenant-colonel, fifty-five major 181 captain and eighty-nine first lieutenant (In this connection it is of interest to note that approximately one sixth of these commissions offered but declined were in field grades) From the foregoing it will be seen that thousands of experienced medical officers have been discharged and returned to their practices in civil life leaving behind them in the minds of their former military associates no question of doubt as to the keenness of their desire for an absolute divorce from the military service Many have left us with nothing but an expression of the bitterness in their hearts Dissatisfaction over their lot while serving with the colors is common

In justice to them it should be said that while combat activities were on they served bravely and patiently even while smarting under what appeared to be injustice and lack of appreciation With their duty to the country fulfilled in fullest measure of devotion a wave of revulsion swept over many of those about to be discharged Immediately following the armistice, universal discontent and dissatisfaction became rampant among the reservists Some spared no pains to voice their indignation and disgust at the lot which fell to them during the war and the situation in which they found themselves when the armistice anticlimax overwhelmed them Disappointed, their sole aim was to get out of the army as quickly as possible and forget it

In the matter of securing initial commission and subsequent promotion political influence "wire pulling" and "peanut politics" were openly charged As one man put it "Why shouldn't a man become disgusted when he was made to realize that pull and bull won out over patriotism and efficiency in the matter of securing commissions and promotion"

While in some respects the foregoing typical statements are somewhat far fetched the basic causes of the discontent now pervading the ranks of our ex-reservists are clearly understood and deeply deplored by those in the regular service There is a psychologic and pecuniary foundation that requires no further discussion here The fact remains that a commission in the Medical Section of the Officers Reserve Corps at this time seems to be unattractive to the majority of physicians in civil practice

Even among those who do not harbor any ill feeling over their treatment in the army during the war—and they we feel confident constitute the majority—a statement frequently heard is that commissioned status on the reserve list as now provided for carries with it no special prestige or advantage but on the contrary certain restrictions or obligations that the average medical man in civil life prefers not to assume Furthermore he will tell you it was amply demonstrated in the recent war that when the country needed medical officers they promptly responded no matter what the personal sacrifice may have been, and that they will continue to remain sufficiently loyal and patriotic to respond in the future to any call of the nation for aid in time of actual hostilities At any rate he is "fed up" on the army and turns a deaf ear toward any proposition which would necessitate any further interest in it

Many of them cite or dwell at length on the fact that the older officers—in point of service—of the Reserve Corps who joined the colors at the beginning of the war found themselves after several years of faithful and efficient service returning to their homes junior in rank to medical officers who had not joined the reserve in time of peace and did not do so until the war was well along In fact the recriminations now being directed at this phase of the civilian medical practitioners military service have a very considerable basis in fact and constitute the crux of the whole question How this situation arose will not be discussed here It is well perhaps to point out that the administrative difficulties of hastily expanding a corps of about 400 officers to one of 30 000 under the confusion of rapid preparation for war are very great

When it is borne in mind that the public is apathetic in time of peace toward any measure of military preparation and that it had been impossible to secure legislation outlining a military policy to meet such an emergency it is not surprising that mistakes and injustices occurred They always have occurred and they always will occur until such time as [illegible] for the mobilization of the nation [illegible] and put into effect before the emergency is on us It is illuminating and extremely significant to observe that the reserve officer places this item of relative rank high up among the desiderata meriting consideration, and accords to it practically as much importance as does the regular army man This is a psychologic factor which must be given due weight in attempting to devise a corrective for the condition now existing

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[2] See Footnote p 450

For purpose of illustration let us assume that in time of emergency two practitioners in the same community volunteer their services Both receive commissions as first lieutenants and both perform equally meritorious service When their services are no longer required, both return to their homes to resume practice, one, however, is now a lieutenant-colonel, while the other is still a first lieutenant If it happens that the latter is the older and had become a member of the Reserve Corps before the war, attended camps of instruction, etc, his feelings can be better imagined than described Obviously there must be something radically wrong with any system which can permit such injustice to occur

A just promotion policy had not been formulated in time of peace Moreover, such a policy could not have been worked out for the reason that we had no basic military policy on which our war effort was to be built Such a policy can be elaborated and enacted into law only by the government, and this each succeeding administration has failed to do It is one of the saddest commentaries on this lack of a policy providing for preparation in time of peace that so many of those splendid medical men serving at the front with combat troops during the war receive little or no recognition in the way of promotion for hard and dangerous duty well done Many of them rendered brilliant service throughout all the battles participated in by the American Expeditionary Forces and found themselves still in their original grades when the war ended Others, firm in the belief of the holiness of the cause, made the great sacrifice Undying glory and honor have been brought to the medical profession While it was a great privilege to have been permitted to serve, we shall have failed in our simple duty if we do not attempt to profit by the lessons of the war

Not once but hundreds of time have we been told by medical officers that this subject of relative rank in the home community carries great weight with them

It is a safe assumption that the Medical Officers' Reserve Corps as now constituted and conducted does not offer any alluring inducements to the thousands of experienced men who are returning to civil life with valuable military experience We can ill afford to lose their sympathetic cooperation, their interest, and the knowledge they acquired in following the devious ups and downs of a military career during the past two years And in this connection it cannot be too strongly emphasized that the Medical Corps of the Army can achieve progress in the cause of medical preparedness only as it works in cooperation with the civil medical profession of the country The war has shown us that the problems of the former are likewise the problems of the latter The time has passed when any country can hire men to fight its battles, and other men to salvage the human wastage of war It is well that both the medical officer of the army and his civilian brother should meditate on this aspect of the nation in arms

If we adhere to generalities and assume that inequality of promotion and consequent disturbance in relative rank had more than anything else to do with bringing about the existing disaffection, where lies the remedy? How can the Reserve Corps be made an *instrument for preparing the civil practitioner* to assume his military obligations with efficiency and justice to himself? Radical changes are necessary As to that, the civil medical profession and the medical officer of the army are well aware It remains, therefore, to determine on a remedy

PROPOSED REORGANIZATION OF THE RESERVE

The Medical Corps of the Army sponsored the inauguration of the Reserve Corps idea in this country at the time when General Robert Maitland O'Reilly was Surgeon-General of the Army Its pioneer work in having the bill of 1908 enacted was later emulated by other branches of the military and naval services Existing legislation governing the Reserve Corps, while sound in principle, is far from satisfactory and needs amendment in a constructive fashion Therefore, if we are again to have a happy, contented, well-balanced and proficient reserve, cooperating and working in close harmony with its parent organization, the Medical Corps of the Army must again step out and propose the establishment of a reserve system which will embody the results of experience under the original reserve act prior to and during the war, retaining its good features and eliminating its defects Among the latter we are disposed to accord lack of provision for promotion first place

Our proposition calls for the assistance and cooperation of the general staff at the War Department, since many of the features desired could be put into effect by that body without further recourse to Congress, but where the latter course is necessary, the enactment of such simple legislation as will permit us to arrange the list of Reserve Corps officers just as is done with officers of the Regular Corps How can this be accomplished?

FIRST STEP A LINEAL ROSTER FOR RESERVE OFFICERS

Place all medical reserve officers on one lineal list and thereby establish (among themselves) relative rank, just as is done in the case of officers in the regular establishment All officers are to be commissioned in grades from colonel down to and including first lieutenant and arranged on the list in order of their rank and subsequently promoted according to seniority The proportion between the various grades should be the same as now authorized for the Regular Medical Corps (Present legal allowances in Medical Corps are colonels, 3 16 per cent, lieutenant-colonels, 5 42 per cent, majors, 23 7 per cent, captains and lieutenants, 67 72 per cent)

After readjustment in rank of those now in the reserve, and of such former members of the reserve as may rejoin under this new scheme has been made as described below, all original appointments to the reserve, in peace or war, and irrespective of the age or professional standing of the applicant, shall be made only in the junior grade—that of first lieutenant—the new appointee to take his place on the lineal list at the foot of that grade This provision would place a premium on early enrolment in the reserve and a penalty on temporizing or great delay Once commissioned in the reserve, a young medical man's relative position on the list is established and he will always have precedence on the *peace time list* over those subsequently joining Let the recruit begin at the bottom while he is young, preferably just out of medical school

However, some exceptions to this rule would have to be provided for Any officer of the Regular Medical Corps or of the National Guard who resigns his commission or is discharged under honorable conditions should be admitted to the reserve list in the grade and with the corresponding lineal rank he held in those forces when discharged Such increments should be carried as extra files until they can be absorbed in the annual readjustment

In this connection it should be remembered that a medical man cannot hold two commissions If he is a member of the reserve he must resign in order to accept a commission in the National Guard By doing so he will create a vacancy in the reserve to be filled by the promotion of those below him on the lineal list If he subsequently resigns from the National Guard and desires to resume a reserve status, he should be recommissioned in the reserve in the grade and take his place on the list in the same position he would have occupied had he not left it

HOW TO INAUGURATE THE ROSTER

1 At any time within one year after the passage of the proposed act admit to this newly created Medical Section of the Officers' Reserve Corps on their own application and in the highest grade occupied by them all medical officers who served during the world war and are eligible for reserve commissions

2 Equitably distribute the number of various grades as legally authorized, computed on the total number of officers enrolled in the Reserve Corps

3 Redistribute grades for purposes of promotion annually, based on the total strength of the reserve at the end of each calendar year

In the initial adjustment, it shall be provided, however, that the minimum number of field grades authorized shall not fall below the reserve on a million men i e 7 000 medical officers This proviso would permit us to start off with a reserve list of at least 221 colonels 379 lieutenant-colonels 1 659 majors and the balance in captains and lieutenants For a reserve enrolment of 14,000 medical officers, our allowance would be 442 colonels, 758 lieutenant-colonels and so on

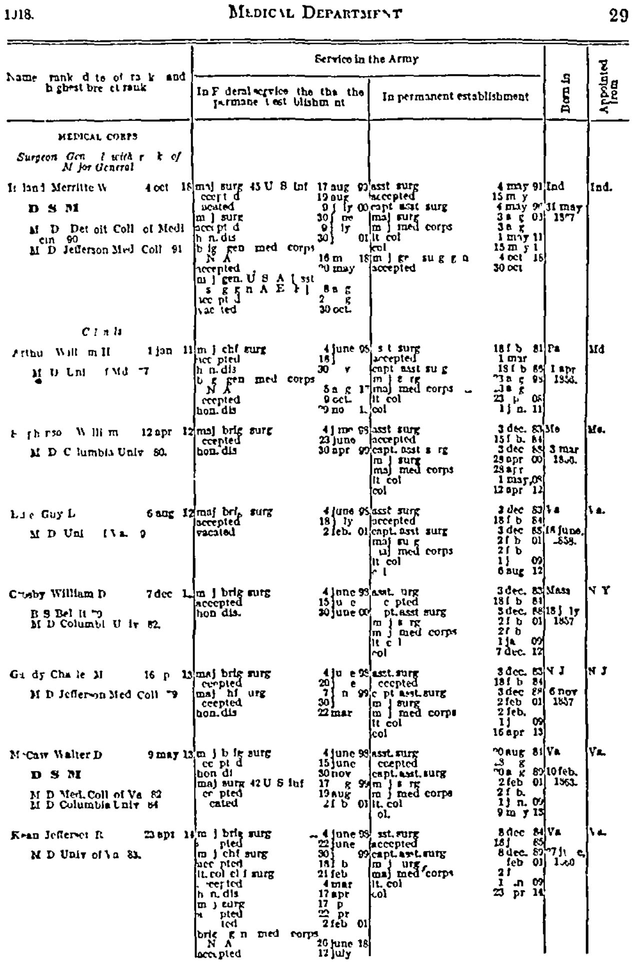
With the foregoing minimum allowance in field grades, every reservist could be assured of receiving a commission in the highest grade held by him during the war and on recommendation of the Surgeon-General many of those not suitably rewarded by promotion during the war could now be promoted In fact, it would assure nearly every junior officer an extra grade As additions to the reserve were made and the list grew there would of course occur a corresponding increase in the higher grades, thus creating an opportunity for further promotion

In the annual redistribution should there be found in any year an excess of officers in the field grades no demotions would be made, but further promotions to those grades would be suspended until the extra files had been absorbed either by eliminations in the grades showing the surplus or by additions at the bottom of the list or by a combination of the two In accomplishing the initial adjustment the relative rank in each grade should be arranged by recommission if necessary, and preferably in the order of age of the individual with the result that older men would be placed above the younger in each grade While this is not essential it is highly desirable and is a good principle to follow for the reason that it would stimulate a constant flow of promotion for those officers below them on the various lists where as with younger men at the top, considerable blocking of promotion will result In other words, a young man remains on the list longer than an older man with the result that the latter passes off it without enjoying a vacancy in the grade occupied by the former It is believed that this primary readjustment could be equitably and fairly brought about in a methodical manner to the satisfaction of all concerned Of course some compromise would be necessary Only one man could be No 1 in each grade Some man would have to be content with remaining for the time being No 221 on the list of colonels and another one No 379 on the list of lieutenant-colonels and so on down—to use an army phrase—to the goat' lieutenant, the last man who joined the reserve

SECOND STEP SUBSEQUENT OPERATION OF THE ROSTER

Now let us assume that what we might term the war-time or readjustment phase in the evolution of the new Reserve Corps has been accomplished as described above Under the proposed scheme there may have been enrolled, let us say, 20 000 of our ex-war reservists But to take a concrete example assume only that the 7,000 officers noted above constitute the Medical Reserve Corps when the list is first established and printed In other words, we would have 221 colonels 379 lieutenant-colonels 1,659 majors and 4 741 captains and lieutenants (any increase above the 7,000 taken as an example would result in a proportionate increase in the various grades just given) After the lapse of one year no further initial appointments in the higher grades would be made From that time on all appointments would be made in the lowest grade, or that of first lieutenant and the applicant so appointed would, according to the date of his commission take rank on the lineal list at the foot of first lieutenants Promotion thereafter would be made just as in the regular corps by seniority as vacancies occur These vacancies in the various grades would be created, for example, by death, by discharge for cause by resignation, or when the reservist reaches the age of 64 years This is the retiring age for regular officers, and is favored over the 59 maximum now prescribed for reserve officers The period of one year suggested above is not arbitrary, but it is evident that a time limit must be fixed before the expiration of which all ex-medical officers must have decided whether or not they wish to hold a commission in the Reserve Corps This period would be the time required for bringing before the medical profession of the country the approved plan for the reorganization of the Reserve Corps

Removal of a colonel from the list through the operation of any of the reasons given above would immediately result in the promotion of the senior lieutenant-colonel, the senior major and the senior captain Promotion to captain would be made after three years service and would not depend on vacancies One point that we particularly desire to make clear here is that through the operation of such a list as [illegible] posed by us an officer on the reserve list is in l[illegible] motion and would be promoted as va[illegible] irrespective of the fact that perhaps he h a single day on active duty Under this scheme, every man takes his place on the list and is considered eligible for promotion exactly as is every other officer on that list No limitations should be placed on eligibility for service in grades Appointed as first lieutenant, we see no reason why an officer should not after the lapse of twenty or more years, provided he has made a faithful effort to keep up with the progress of medico-military science, be fully capable of performing the duties of a colonel, in which grade he would probably find himself at that time if this plan is accepted The point that we particularly desire to make clear is that under this scheme a reservist may never see any active service—except such attendance at camps of instruction as he may elect—yet a steady flow of promotion is assured



A page (reduced) from the official Army Register 1918

THIRD STEP PUBLICATION OF A SEPARATE MEDICAL RESERVE SECTION OF THE OFFICIAL ARMY REGISTER

The War Department now publishes annually a compilation known as the Official Army Register This contains the names, records, etc , of all officers of the regular army During the war its publication was suspended, the last prewar register being issued in December, 1915 The publication of this register was resumed for the year 1918

For those readers who have never seen an issue of this document, we might add that it is a paper covered book 9 by 6 inches and for the 1918 issue, containing the records of 10,596 officers, is 1½ inches thick For desk and ready reference purposes, this is a handy and convenient size

With the Medical Reserve Corps organized and conducted on a lineal list basis as proposed above, the publication annually of a separate Medical Reserve section of this official Army Register is essential In other words, we would have issued annually the present official Army Register one volume of which would contain the names and records of "Officers of the Regular Establishment," and one or more volumes to contain the names of officers of the Medical Reserve (no volume should exceed 10,000 names) While true that the medical officers in the National Guard are prohibited from holding a commission in the Medical Section of the Officers' Reserve Corps, they nevertheless form part of our national reserve There would be no objection to the publication of a separate register for these officers, but as their strength, based on past records, would probably never exceed an aggregate of 1,000 medical officers (the maximum number in 1916 was only 800 officers) there is no reason why their names, rank, National Guard assignments, military record, etc , should not be incorporated in the volume, immediately following the names of officers of the medical section Officers' Reserve Corps In this event the proper title for the register should read

OFFICIAL ARMY REGISTER
(Reserve Medical Officers)

instead of

OFFICIAL ARMY REGISTER
(Medical Section—Officers Reserve Corps)

We see no reason why each section of the Officers' Reserve Corps should not also publish a register For example, we would propose that there be one register also for reserve infantry officers, another register for reserve quartermaster officers, and so on to cover all of the reserve officers enrolled by the army

We would pattern the preparation of this register of reserve officers very much after that now being used for officers of the regular establishment To make the register generally useful we would, however, embody certain changes therein For example, we would arrange all officers under their different grades with their relative rank in each grade indicated by serial numbers The first page of the register would start with the colonels and be headed by the name of the officer who was number one on the list of colonels Colonels, of course, would be followed by a list of lieutenant-colonels and so on down to the junior lieutenants

As for the regular register, the record would show for each officer, in the first column the name, rank, date of rank, military awards, and college and university degrees with date of these In the second column could be shown the military service, such as dates of the various commissions, etc

In the third column could be shown the home address, specialties or nature of practice in which engaged, hospital appointments, officerships in societies, etc In the fourth column, place and date of birth and in the fifth, state from which appointed (the foregoing all to be shown in the first section of the register)

In another section of the same register could be shown a table of the distribution by states, this to be followed by casualties, showing by name, resignations, deaths and discharges during the year This could be followed by insertion of histories of organizations and such other items of historical data as would prove of general or official interest This might well include a brief history of the organizations and operations of all the sanitary organizations utilized during the world war but which have now gone out of existence

Schedules of pay tables of the army should follow this, and lastly the general alphabetical index of all the names contained in the register Basic laws affecting the reserve corps should be inserted in fly leaf

This register would prove a very useful document It would make an excellent reference record, something that we now sadly lack During the war, regular officers in charge of large projects knew absolutely nothing of the make-up of the Medical Reserve Corps The possession of a copy of this register would have proved invaluable to them in making selections and assignments Every officer in the reserve should be furnished a copy of this register annually In that way he would become acquainted with the names relative rank and location of other reserve officers, particularly those in his own or nearby communities It could also be placed on sale at the Government Printing Office at cost price, and made available for libraries, medical societies, etc which would be interested in having copies for reference

Reference to the register would definitely fix the lineal rank of every officer whose name is borne thereon just as is now possible for officers of the regular establishment Another thing, as the years went on it would be a complete record of a man s service from the time he joined when his name was away down on the list of lieutenants, to the present when perhaps he might be well up on the list of colonels Know ye one another!' So much for the book

FOURTH STEP TRAINING OF RESERVE OFFICERS

The training of reserve officers will be discussed in brief and only because it has some relationship to our scheme and will require careful consideration if it is adopted If a young man joins the reserve today as a first lieutenant, and as the years go by is successively promoted through the grades of captain, major, etc until twenty-five years hence let us say he is a colonel on the list, and may have attained that rank without ever having had a single day of active duty—should we remain content to let the matter rest there? Most emphatically, No! We believe that no reservist would accept promotion to a higher grade without at least making a faithful effort to keep abreast of the medico-military requirements of the grade in which he would have to serve were he suddenly ordered out in time of war to join the colors In fact it will be necessary to *require* of all reservists some attention to training or instruction, and eliminate those who fail to attach any great importance to that end of their military status It is safe to assume that any fair minded and conscientious reservist would demand instruction in the event that the war department did not provide and require it But in imparting this instruction by no means should reversion to the old order of things be permitted However, the entire subject of training of our forces has not yet been developed and any ideas that we might advance now would be premature until we become familiar with the basic fabric on which our reorganization is to be built In a general way, however, we might add that the Medical Department desires to maintain two schools, one at Washington which will be known as the Medical Department Technical School and in which will be taught strictly professional work, and another one to be established at some camp not yet selected and to be known as the Medical Department Field Service School, where instruction in all field matters will be given In addition to these two schools Medical Department personnel will also have the option of access to training camps, particularly those in which combined maneuvers are held

At the Medical Department Field Service School we hope to maintain complete exhibits of all Medical Department units sanitary devices etc with sufficient trained personnel always on hand to demonstrate their uses For example, among many other exhibits one should be able to see there a sanitary train in operation an evacuation hospital complete and ready to function and at times a standard hospital train When our educational program has been placed on a firm foundation, we should permit all reservists largely to follow their own inclination and elect the time place and character of the course which they desire to take With a large reserve list all the men on it by means of suitable questionnaires sent out at stated intervals will be encouraged to elect the kind of work they desire to follow if called into active service Some would elect administrative work, others mobile base or evacuation hospital instruction, and still others duty with combatant organizations

A complete pamphlet on all Medical Department training resources should then be compiled and distributed among reserve officers We should make these instruction centers so attractive and a residence therein so interesting that the reservist, instead of spending all of his vacation in the mountains or at the seashore would take a part at least at one of these centers They should be open for attendance by these officers the year round, barring, of course climatic conditions where necessary Then say to the reservist The door is open, come as often and stay as long as you like ' To meet the expense item there should be written into any basic training law a provision that any reserve officer proceeding from his home by the most direct route to the training center he elects is automatically (under his commission) placed on active duty and entitled to the legal traveling expenses pay etc during the time that he is proceeding to remains at and is returning from the training center the authority for such pay and allowance while under instruction not to exceed that for one month in any calendar year but to be cumulative up to four years This clause would enable the reservist if he so desired to attend the instruction center for four months on full pay once every four years or for two months every two years in the event that he did not care to spend his annual monthly vacation in this manner

Herein we are attempting only in a general way to state how we believe training particularly for reserve medical officers should be developed and encouraged Any plan adopted would necessitate the incorporation of many details that need not be recited here For example, at some of the centers there would necessarily have to be some check made on the attendance A man would probably be required to write direct to the center beforehand and receive permission to come at a certain time, in order that he might be assured of accommodations

Furthermore, we would reduce didactic instruction to an absolute minimum Instruction should be by demonstration and actual working exhibition of the specialty in which the reservist is interes Gon through squads right, t, n left hand salute, and lining up with mess kits should be relegated to the background Of course the reservist recruit, the man just out of college, who knows nothing of soldiering would need some instruction along these lines In fact, he would probably be the first to suggest it Nevertheless, we want to emphasize the fact that this feature of his instruction should be carried on only long enough to give him an insight into military requirements and to help him to adapt himself to military customs With it, he can save himself needless embarrassment when called to the colors, without it he would only be adding to his troubles in such a contingency

Another point to be emphasized is avoidance of taking up too much of the student officers' time with paper work For those men particularly interested in it, every opportunity should be extended to familiarize them with this subject, but for the average reservist we would urge very little of this work If successful in developing our proposed Medical Service Corps, we should always in the future have an ample number of trained officers to carry on this work in hospitals and other sanitary formations and free medical officers from the necessity of devoting their time to this phase of what has heretofore been an irksome task

FIFTH STEP PROMOTION IN TIME OF WAR

As predicted above for a long time to come at least we shall hope that this question will not cause us any great concern Let us put our house in order by establishing our peace-time list on a methodical and equitable basis The matter is briefly treated in a subsequent paragraph, but here it is desired to emphasize the urgent necessity of devising some system of promotion in time of war to protect the interests and reward the reservists who have had years of service on the peace-time list

The adoption of our peace-time list would form a foundation for and greatly facilitate the equitable distribution of promotion in war It is safe to assume, however, that selective promotion will always prevail in time of war Also at this time if the excellent principle followed in the recent war is adhered to, the medical officers of the Regular Corps, Reserve Corps, and National Guard become part of the combined or greater U S Army The minute they enter on active service, all National Guard and reserve officers are recognized as being on the same footing as the regular officers, and lose their reserve and National Guard identities

All new appointments to a war army should be made only in the lowest grade—that of first lieutenant All promotions into the higher grades of the combined army should be made from one of three lists mentioned—i e, the former regular list the former reserve list, and the former National Guard list For purposes of equalizing promotion as far as possible we would have all men who are promoted to a higher grade in the U S Army during war time automatically create vacancies in the other lists when they leave them "On paper" only this would result in double promotions and enable seniors on the list who are not in a position to render service that attracts attention and results in selective promotion to enjoy at least some promotion as a result of their relative position on their own lineal list It is only natural in war time that promotion shall go to the man on the ground To that extent there is a considerable element of chance The man who is immediately available and who has demonstrated his fitness for a larger task will naturally be selected, even though another man of equal or greater ability is known but not immediately available

On the declaration of war, no further appointments to the Medical Reserve Corps or National Guard would be made All commissions would be made in the U S Army All officers on the regular, reserve or National Guard lists retain the permanent rank held during peace time on those lists, but automatically become members of the "Medical Corps, U S Army," the great war time pool which recognizes no distinction such as regular or reserve All new appointments to the U S Army during war are to be made in the grade of first lieutenant, all selective promotions to be temporary and made in that army Assuming that all men on the regular, reserve or National Guard lists are proficient, they should enjoy a normal flow of promotion during war time even though they may not be singled out for selective promotion To effect this and remedy a fault recognized during the last war, every time a man is promoted to the combined war list let it be assumed for purpose of computation only that he has temporarily created a vacancy in his old lineal list and that it results in the promotion of the seniors in each grade on that list below him In other words, this scheme would result in "double" promotion

SIXTH STEP REVISION OF TABLES OF ORGANIZATION AS THEY AFFECT MEDICAL DEPARTMENT DISTRIBUTION

This does not require any legislation—it is strictly a matter for adjustment by the General Staff at the War Department, and on recommendations made by the Surgeon-General it is now receiving consideration by that body Unquestionably, inequality of promotion has been indirectly influenced in the past by disproportionate and unfair distribution of grades in existing tables of organization During the war, whenever the question of promotion for a medical officer arose, it seemed extremely difficult to convince the deciding officer that promotion in the Medical Department had absolutely no connection whatever—as far as legal allowances were concerned—with any table of organization Medical Department allowances are computed only on the total authorized enlisted strength of the army, and are expressed in one aggregate which, in turn, by the same law is proportionately distributed in the various grades As mentioned above, tables of organization for Medical Department personnel concern only the War Department—not Congress—and represent merely an effort to foresee and provide for the needs of the specific unit concerned In other words, they show the proper distribution of the legal allowance of medical personnel and provide for the army by congressional enactment Quite the contrary situation exists for the line of the army, the basic organization of which is prescribed by Congress in terms of tables plus certain allowances for a detached officers' list Heretofore the Medical Department has attempted to parallel the line system by recommending tables of organization for essential units and then pooling for general distribution and assignment as needed, the officers remaining after the requirements of these tables have been met The Medical Department 'pool' is analogous to the line detached officers' list Previous tables of organization recommended by the Medical Department have not provided a proper proportion of officers in the higher grades for units serving with an expeditionary force This faulty distribution has resulted in throwing into the pool a relatively large and disproportionate number of officers in the field grades—in other words, the higher rank has been reserved for officers in the home territory to the corresponding disadvantage of officers serving in the theater of operations

An effort is now being made by the Surgeon-General to remedy this condition by effecting a more harmonious equalization in distributing the grades authorized for all Medical Department officers and noncommissioned officers borne on the tables of organization Any man serving in an expeditionary force should have an equal chance for promotion with those in the home territory This parity can be maintained only through proper distribution of the legally authorized grades Places with higher rank must be authorized for our officers who are serving at the front Furthermore, by authorizing a fair proportion of higher grades in tables of organization for the Medical Department, army, division and other commanders will be automatically relieved of the handicap of which many of them complained during the late war this with reference to their inability to recommend promotion of a man in their own command simply because a place apparently did not exist for him in tables of organization This left many vacancies that were never filled, and denied to reservists the promotion to which they were legally entitled If a generous commander, in an effort to reward meritorious service, recommended a medical officer for promotion, he stood a good chance of losing his services because of the necessity of transferring him elsewhere where a place for him under tables of organization could be found In accordance with the principles enunciated above, the more important changes proposed in tables of organization now under consideration are division surgeon to be a colonel, each battalion surgeon to be a major, sanitary train commanding officer to be a colonel, field hospital battalion commanding officer to be a lieutenant-colonel, medical laboratory section of sanitary train to be in charge of a major, evacuation hospital (750 beds) to have one colonel, two lieutenant-colonels, seven majors and twenty-six captains and first lieutenants, a total of thirty-eight, mobile surgical hospital (250 beds), one lieutenant-colonel, two majors and sixteen captains or lieutenants, total nineteen, base hospital (1,000 beds), one colonel, two lieutenant-colonels, seven majors, twenty-nine captains and lieutenants total thirty-nine, convalescent camp (1,000 beds) one colonel, two lieutenant-colonels, two majors, twelve captains and lieutenants, total seventeen, camp hospital, one lieutenant-colonel, three majors eight captains or first lieutenants, total twelve, hospital train, one major, three captains or first lieutenants

CONCLUSION

In our opinion the methods now prescribed for enrolling, classifying, training, promoting and calling to active service the medical reserve of the country are far from satisfactory The organization of the reserve must be revamped and based on more scientific principles The plan we are proposing may not be ideal but we offer it as an effective means for betterment Discussion of any of the features of our proposition particularly with reference to constructive suggestions for improving existing or prospective conditions, in the columns of this journal or by correspondence direct with the writers, is invited If this article results in concentrating a little more thought at large on this very important phase of our national preparedness, the principal object of the writers will have been accomplished

Surgeon-General s Office

THE BROAD TAPEWORM IN MINNESOTA

FURTHER FACTS AND CONSIDERATIONS

W S NICKERSON SD MD
LONG LAKE MINN

The recent article by Riley[1] is important in calling attention to the frequency of occurrence of the broad tapeworm in Minnesota, and especially in putting on record evidence of two more cases of native infestation by *Dibothriocephalus latus* I desire to call attention to some other facts overlooked or not considered in the paper of that author

NATIVE FOCI OF INFESTATION

Four clear-cut cases of native infestation have been reported The first of these is the case of Dr O W Parker of Ely, Minn reported by me in 1906[2] This Riley refers to as "the only recorded case not clearly explicable on the theory that the parasite was an importation"

The second case was that of Dr Olaf A Olson of Minneapolis, demonstrated by me before Section F (Zoology) of the American Association for the Advancement of Science in Minneapolis (1910) and briefly reported in 1911[3] As this report did not appear in a medical journal, it seems to have been unnoticed by physicians Riley, who evidently intended to give full credit to my work has also overlooked it Under these circumstances I may be excused for quoting a part of it here

> This case occurred in a woman who was born and has always lived in Hennepin County Minn never having been out of the state except once for a visit in North Dakota While ther she ate dried and smoked fish (otherwise uncooked) and it was soon after her return home that she experienced symptoms attributed to the tapeworm The infection must therefore have occurred in America and from the eating of American fish

The other two cases are those reported by Riley[1] We have, therefore four unquestionable cases on record in which the patient acquired the parasite in this country—in three of the cases definitely in Minnesota, in the other either in Minnesota or in North Dakota

Stiles[4] says that "it is probable that immigrants will infect the fish in some of our lake regions The case of Dr Parker (reported in 1906) demonstrated that this had already occurred before the publication of Stiles prediction

Riley claims that the general view of medical men is that there is very little evidence at present to justify an assumption that native foci of infection exist in this country However true this may have been in the past it must be said that for the future any such view on the part of physicians can no longer be justified on the ground of lack of evidence, but instead must be attributed to their lack of knowledge of the facts. In reality, the case of Dr. Parker was enough to establish absolutely the existence of one focus of infection in America. As the number of reported cases becomes greater, more definite knowledge will be gained concerning the extent and number of such foci.

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[1] Riley W A The Broad Tapeworm Dibothriocephalus Latus in Minnesota Additional Record J A M A 73 1186 (O [illegible] 1919

[2] Nickerson W S The Broad Tapeworm in Minnesota J A M A 46 711 (March 10) 1906

[3] Nickerson W S Some Data Concerning D [illegible] Latus in America with Report of a Second Case of Infection [illegible] in the United States Science 33 2 0 (Feb

[4] Stiles C W Osler Mod Med 1

FREQUENCY OF DIBOTHRIOCEPHALUS LATUS INFESTATION IN AMERICA

Riley quotes Stiles[4] as stating that over thirty cases have been recognized in the United States, chiefly among foreigners. In 1911[3] I reported:

> I have collected from physicians reports of the occurrence of the fish tapeworm (*Dibothriocephalus latus*) of man in sixty-five cases, fifty-one of which were in Minnesota. But six of these have been previously mentioned in literature. The hosts in two cases were Swedes, in one a Japanese, in two native-born, and the others with few if any exceptions were Finns.

From my experience in collecting these instances I feel certain that Riley's belief that there are sections of Minnesota in which it is by all odds the commonest of the large tapeworms of man is absolutely correct. It may be further stated that this condition will be found in any region, whether in Minnesota or elsewhere, which has a predominance of Finnish immigrants in its population. Furthermore, I feel certain that any desired number of cases within reason could be obtained. The number reported was sufficient to establish the prevalence of the worm in Minnesota, and its special frequency among Finns. I did not continue the search for more cases.

I very much doubt that it is more abundant in Minnesota than in several other states in which the sources of the population and the conditions of life are essentially similar. It is quite possible that an equal amount of study of helminthologic conditions in adjacent states might show *D. latus* as abundant there as in Minnesota.

THE PAUCITY OF PARASITOLOGIC EVIDENCE IN HUMAN CASES

It is worthy of note that none of the four known cases of native infestation with *D. latus* was reported by the physician who treated the case, and in neither of the cases which I reported were the special significant facts secured by the attending physicians until at my request they made secondary investigations. I wish to recognize fully the courtesy of these gentlemen in getting these facts for me; but the essential and significant point is that the facts were brought to light only through the cooperation of a physician and a parasitologist. It seems a safe assumption that, had it depended on attending physicians to obtain the evidence, no case of native infestation would have been recorded and relatively few cases of *D. latus* infection would have been reported. And what is true of this human parasite is probably equally true of many or most other species. For parasitologic data our main reliance must be on parasitologists. Physicians have small interest in parasitic cases beyond relieving their patients from the unwelcome guests; and most of them have very meager knowledge of the parasites removed. All tapeworms are alike to them, and any data based on their determinations (diagnoses) are therefore of doubtful value. It is probably not overstating the case to say that helminthologic determinations made by physicians who have not also been trained as zoologists are of no greater value than diagnoses of intra-abdominal conditions (for example, appendicitis) made by zoologists who have not also had a medical training.

As people suffering from parasites very naturally and properly go to physicians for treatment, it follows that few cases of animal parasitism in man come to the attention of parasitologists. Thus is explained the paucity of data on human parasitology in this country, and also the questionable accuracy of many of these.

PARASITOLOGISTS AS CONSULTANTS

Few physicians realize that about as much study and experience are required to make a competent parasitologist as to make a competent physician; and competence in one field no more implies competence in the other in one direction than in the reverse. To be both physician and parasitologist is as rare as to be both physician and lawyer. In view of these facts and of the greatly increased role which animal parasitism has been shown in recent years to play in the causation of human disease, it becomes important that cooperation between these two classes of scientific workers be brought about. The physician who has to treat a case of human parasitism needs the benefit of consultation with a parasitologist, although in most cases it would be no more necessary for the consultant to see the patient than it would for the pathologist who diagnoses a tumor removed at operation. But the proper diagnosis of the case is dependent on the report of the specialist in both cases, and the degree of special knowledge required is equally great. The importance of a reliable diagnosis is generally recognized in the tumor case but not in the parasite case.

A difficulty in securing to the physician such consultation arises from the fact that parasitologists are not as numerous nor so easily accessible as pathologists—just as cases calling for their services are probably not as common as those calling for the services of the pathologist. This difficulty may, however, be overcome. The zoologists of the Bureau of Animal Industry in Washington are ready at any time to make determinations and reports of human or other parasites sent them. Furthermore, in most state universities and in many other universities, colleges and agricultural colleges there is some competent member of the zoological department who would be willing to make determinations of human parasites and give any needed suggestions or advice at little or no charge.

STATE PARASITOLOGISTS

It would seem best, however, that the state university should be made a central clearing-house for all such cases within the state. Some member of the department of zoology should be appointed or recognized as state parasitologist on whom would fall the task of receiving, classifying and reporting on human parasites sent him. Notices should be sent out to physicians giving directions for preserving and forwarding specimens accompanied by proper data and offering them the benefit of free determinations and any needed suggestions. In this way opportunity would be provided for the gathering of useful knowledge which is now lost and statistics so gathered would have the advantage of reliability. Physicians would receive helpful direction and suggestions as to possible sources of infestation, prophylaxis and problems for investigation.

The main question is, Can physicians be made to realize their need for such aid as I have suggested, and will they take enough interest in the matter to send in the specimens?

Clinical Notes, Suggestions, and New Instruments

REPORT OF A CASE OF SEVERE HEAD TETANUS WITH RECOVERY *

Kenneth M Lewis B S M D New York
House Physician Roosevelt Hospital

This case is presented as one not uncommon in the services of large hospitals today and as showing the ready response to antitoxin even after the onset of symptoms

History—A Finn aged 36 admitted at 2 p m Nov 8 1919, to the service of Dr Evan Evans nine days previously while returning from work late at night had been waylaid by several men, beaten about the head and robbed When he regained consciousness next morning he found he had a large laceration of the left ear and scalp The wound was sutured at a nearby hospital but tetanus antitoxin was not administered so far as could be ascertained He returned to the same hospital during the following week for dressings On the seventh day a friend noticed that the left side of his face was flattened on the eighth day the flattening was more marked and the patient had difficulty in opening his mouth On the afternoon of the ninth day he presented himself to the emergency department of the Roosevelt Hospital

UNITS OF ANTITOXIN ADMINISTERED

Date	Subcutaneous	Intravenous	Intraspinal
Nov 8	3 000 (2 p m)	8 000 (4 30 p m)	5 000 (5 p m)
Nov 9			5 000 (10 a m)
Nov 9			5 000 (4 p m)
Nov 10			4 000 (2 p m)
Nov 18	1 500		

Physical Examination—There was a complete left facial paralysis of peripheral type and marked trismus the patient being able to open his mouth not more than 1 cm There was a deep laceration 4 cm in length at the posterior aspect of the left ear and scalp, which had been closed with five horsehair sutures There was a small amount of foul smelling, purulent discharge and a diffuse redness and swelling around the wound The pupils were equal regular and reacted sluggishly to light The neck showed moderate opisthotonos The superficial abdominal reflexes were present, there was a moderate Kernig reaction, the knee jerks were hyperactive but equal, Babinski reflex was + +, there was no ankle clonus paralysis or stiffness The temperature was 99 2 F, respirations 20 and pulse 80

Laboratory Findings—Urine tests were negative except for a trace of albumin The blood showed white blood cells 14 000, with 81 per cent polymorphonuclears red blood cells 5 000 000, hemoglobin 75 per cent (Sahli), Wassermann reaction negative Bacteriologic On the morning following admission two stab cultures were made in glucose agar tubes from the deepest part of the wound After twenty-four hours of incubation growth had occurred along the stab with the formation of gas Smears from the culture showed numerous long slender gram-positive bacilli with a large clear spore at one end which morphologically were *B tetani* There were also small gram-negative bacilli present in large numbers These were later identified as *B coli* Inoculation was made direct from the original stab culture into the root of the tail of a white mouse The mouse died in fourteen hours with marked stiffening of the extremities

Treatment—1 General Measures The accompanying table gives the number of units of antitoxin administered It can be seen that the greater part of the antitoxin was given by the intraspinal method In addition to this 1 500 antitoxin units were applied locally to the surface of the wound for two weeks The diet consisted of fluids such as milk, cocoa and eggnog with the addition of large amounts of sucrose and lactose

2 Local Measures At the time of admission the sutures were removed and the wound opened wide The following morning the wound was washed with hydrogen peroxid then with 3 5 per cent tincture of iodin followed by 1 500 units of antitoxin and a dry dressing was applied The local treatment was not started until the culture had been taken The wound was dressed each day with the foregoing routine The injection of antitoxin along the course of the left facial nerve was taken into consideration but was abandoned on the advice of Dr Park of the New York board of health

Clinical Course—November 8 the patient was admitted

November 9 he was stuporous and complained of pain at the site of the intraspinal injection trismus was complete opisthotonos was more marked no vertebral motion was possible

November 10 the Kernig and Babinski reflexes were more marked and the knee jerks more active There was bradycardia pulse from 50 to 60

November 11 the knee jerks were less active with the left greater than the right The Babinski reflex was maximal Herpes simplex appeared on the lips and the external nares The patient complained of being stiff all over

November 14 trismus and opisthotonos were decreasing and the neck was not so rigid The knee jerks were feeble with the left greater than the right Kernig s sign and bradycardia were still present

From this time on the patient began to show a gradual diminution in the signs The trismus and opisthotonos gradually decreased in severity The knee jerks however again became very active on November 15 and remained so in decreasing proportion until November 25 The Babinski and Kernig reflexes became negative November 17 and on this day the neck and back were freely movable The facial paralysis did not show signs of returning function until November 22, December 1 the facial paralysis was still present but there was daily increase in function and the trismus had entirely disappeared The wound was allowed to heal by granulation with frequent dressings and became entirely closed by Jan 1 1920 At no time during the course of the disease was there a local or general convulsion and the patient did not seem especially sensitive to external stimuli There was a slight fever on the second day but none subsequently The patient was finally discharged with a slight remnant of the facial paralysis but with no other symptoms

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ACUTE VERONAL (BARBITAL) POISONING REPORT OF A CASE

S J Taub M D Chicago

History—Mrs G E a married white woman aged 28 had been accustomed to using from 10 to 20 grains of barbital almost every night during the last two years following a hysterectomy for fibroids Her health had been good except for attacks of nervousness and insomnia Three days previous to my visit she ate some shrimp salad in a restaurant and became suddenly ill two hours later with nausea vomiting abdominal pains and diarrhea On advice of her husband that night she took 50 grains of barbital purchased in the form of 5 grain veronal tablets in order to get some sleep The vomiting was much less but the diarrhea continued through the night and the patient felt stuporous drowsy and very weak During the next day she took 100 grains of barbital again in order to sleep off the effects of what she called ptomain poisoning from eating shrimp salad

Examination—I saw her the evening of the same day Dec 24 1919 She was in bed and appeared seriously ill she was in a stuporous condition and answered questions very slowly Her voice was very faint and had a prolonged drawling expression There was some confusion but no disorientation The face had an ashy gray hue and the lips were very pale.

The nails were cyanotic and she complained of being very cold. The temperature was 97 5 pulse 52 and respiration

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* From the Medical Wards of the Roosevelt Hospital

12 The pupils were dilated and reacted to light and accommodation The tongue was heavily coated and the breath fetid The heart was regular in action and slow (52) The skin was cold and dry, and it presented a slight yellowish hue

The patellar, triceps and biceps reflexes were very sluggish Sensibility for pain, touch, heat and cold was about normal On attempting to walk to the bath room, she staggered and had to be assisted There was a marked ataxia of both the lower and upper extremities She could not hold anything in her hands

Treatment and Result—The patient was immediately given an ampule of camphor in oil, 1 c c, into the deltoid muscle An attempt was made to pass a stomach tube, but this was impossible because of the patient's poor condition Strychnin, 1/30 grain every two hours, alternating with atropin sulphate, 1/100 grain, was given by mouth Heat was applied externally to keep up the body temperature

December 25 the patient was somewhat improved, although the diarrhea continued and she felt very weak Lethargy and drowsiness persisted and she slept at intervals but was easily aroused The ataxia had not disappeared

There was typical hematoporphyrinuria December 25, which persisted for three days until December 28 After the fourth day, December 26, she was able to sit up in a chair, but the ataxia persisted until December 29, the end of one week

1204 East Forty-Seventh Street

REPORT OF CASE OF INTUSSUSCEPTION WITH GANGRENOUS APPENDIX IN EIGHT MONTHS OLD BABY

Robert K Buford M D Hansford W Va

History—A well nourished girl aged 8 months, referred by Dr G S Hartley, while sitting up in bed playing, commenced crying with severe abdominal pain, which was evidently of paroxysmal character, and was followed by vomiting The child became pale and listless The bowels had moved three times during the day, the last stool was normal and contained no blood On palpation of the abdomen a tumor mass was found in the right hypochondriac region The body assumed a position of opisthotonos following another sudden paroxysm of pain Rectal examination was negative Blood and mucus, but no fecal matter, were obtained by enemas A diagnosis of intussusception was made and the baby was brought to the Sheltering Arms Hospital within thirty-six hours after the onset, and I saw her, in consultation with Dr Hartley and confirmed his diagnosis A tumor mass was demonstrated by fluoroscopic examination

Operation and Result—A right rectus incision was made under ether anesthesia An ileocecal intussusception was found, the ileum being invaginated into the cecum, which was pushed up into the ascending colon The appendix was gangrenous throughout The involved intestines were injected but showed no gangrene There was some free fluid serous in character in the peritoneal cavity The blood supply of the obstructed intestine was not impaired The intussusception was reduced by a slow general milking process, the appendix was removed and the wound closed in the usual manner without drainage The operation was performed in twenty minutes, and the baby was awake before leaving the table

Postoperative treatment consisted in the prevention of reverse peristalsis and in stimulation, nourishment, and combating intestinal toxemia Plain morphin sulphate was given as indicated beginning with 1/120 grain and in increasing quantities every hour until 1/16 grain was reached Then as a routine measure, this drug was continued in doses of 1/16 grain every four hours for the first seventy-two hours The toxins were counteracted by proctoclysis and hypodermoclysis of physiologic sodium chlorid and 5 per cent glucose solutions respectively

No nourishment was given by mouth for the first thirty-six hours, after which time breast milk was fed every two hours in one-half ounce feedings This was continued until the morning of the fourth day, when the child was put to the breast and allowed to nurse ten minutes every four hours until the mother began menstruating Artificial feeding was then resorted to until the subsidence of all menstrual phenomena, at alternate periods it was given all the distilled water it would take

The wound healed by first intention and the baby was discharged from the hospital three weeks after operation

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Therapeutics

A Department Devoted to the Improvement of Therapy
A Forum for the Discussion of the Use of Drugs
and Other Remedies in the Treatment of Disease

USE AND ABUSE OF CATHARTICS*

(*Continued from page 393*)

PURGATIVE PILLS

PODOPHYLLUM

Podophyllum was introduced by the "eclectics" during the period when these practitioners endeavored to substitute drugs of kindly" action for those drugs, used by the "regular school," that were harsh and dangerous when employed without the necessary admixture of brains Calomel was anathema to them, and not without cause So they hunted for a substitute for this drug, and believed they had found it in podophyllum, which came to be known as the "vegetable calomel '

One of the points in which podophyllum resembles the mild mercurous chlorid is the comparative insolubility of its resinous active principles in the acid stomach and their solubility in the alkaline intestinal secretions As in the case of calomel, its action seems to be especially exerted on the upper portion of the small intestine Thus, Ringer quotes some dog experiments by Anstie in which it was found that, after injection of an alcoholic solution of resin of podophyllum into the peritoneal cavity, the small intestine, especially toward the lower end of the duodenum, was extremely congested, and, in some instances, the lower part of the duodenum was extensively ulcerated The large intestine was but slightly engorged Although the injections were poured into the abdominal cavity, the peritoneum itself was not at all inflamed, even around some unabsorbed granules of the resin

Mode of Action—Podophyllum is an irritant to skin and mucous membranes It tends to act as a purgative even when applied to ulcers or raw surfaces, or when given hypodermically, though the local irritation produced precludes its practical employment in this manner It must be classified as a drastic cathartic in view of the fact that overdosage produces gastro-enteritis A sufficiently small dose, from 0 003 to 0 006 gm (1/20 to 1/10 grain) of the resin, produces merely laxative effect, in doses of 0 008 to 0 030 gm (1/8 to 1/2 grain) this resin is an active purge A single dose of 0 05 gm (1 grain), or a daily dose of 0 10 gm (1 1/2 grains), as a general proposition should not be exceeded Excessive dosage may produce bloody and slimy stools, especially in children It may occasion, even in medicinal doses, considerable colic and sometimes nausea Podophyllum has little tendency to produce after-constipation Hence it is suitable for prolonged use

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* This is the eighteenth of a series of articles on the pharmacology physiology and practical application of the common laxatives and cathartics The first article appeared October 18

Unfortunately, it is a rather uncertain cathartic, a dose, adequate to purge one person violently, being inoperative in another Its dosage, therefore, should be small at first and gradually increased as necessary Likewise does the time required for action vary from a few hours to twelve or twenty-four hours or more Combination with some other agent, such as aloes, might rectify some of these defects

Indications —Podophyllum is worth a trial in cases of "biliousness," especially those of the frequently recurring type, in which the repeated administration of calomel would be contraindicated because of danger of mercurial poisoning The syndrome of "biliousness" need not be present in its full evolution Thus, certain types of sick headache are relieved by agents of this class better than by anything else So may certain cases of periodically recurring attacks of indigestion As podophyllum cannot possibly act as an antiseptic—an action that, as we have seen, is doubtful in case of calomel—a more suitable explanation for the special value of the "cholagogues" in "biliousness" than that based on the theory of antiseptic action might be built on Alvarez'[1] theory of "reverse peristalsis" He believes that the syndrome of biliousness is produced by a focus of excessive irritability in a lower portion of the digestive tube, for instance, a chronically inflamed appendix, which upsets the normal gradient of irritability that should become progressively less as we proceed from above downward Now it is not unreasonable to assume that some of these purges, with special action on the upper portion of the small intestine, might, by increasing the irritability of the duodenum and jejunum, restore the previously upset "gradient of forces" This is merely offered as a working hypothesis for experimentation It cannot as yet be even dignified with the term theory

Method of Administration —The resin of podophyllum is the only preparation of this drug that should be employed The name "podophyllin" has been applied to this mixture of alcohol-soluble and water-insoluble principles In view of the desirability of limiting the ending "in" to pure principles, the use of this word in the present popular sense is unscientific, and should be abandoned Let us remember that habits of speech produce and reflect habits of mind

Resin of podophyllum may be prescribed in the form of a 1 60 alcoholic solution (1 grain to the dram), one or two drops of which may be given on a lump of sugar to children, three or four drops to adults It is usually given in the form of pills However, the nicest way of giving it is in the form of tablet triturates, each containing 0 0006 gm (1/100 grain), one or two of which may be given every hour for from four to ten doses

COMBINATION OF ALOES AND PODOPHYLLUM

As podophyllum is one of the slowest of all cathartics in action, combination with rapidly acting purgatives is irrational, as is also the case with aloes On the other hand, combination of podophyllum with aloes impresses one as rational, not only because of similarity in time required for action but also because of difference in point of chief attack An experiment should be devised —and might easily be performed by classes of medical students—to test the question whether we have in such combination a real case of heterotopic synergism Should a patient present a combination of the special indications for these two cathartics they might be suitably combined in one pill The National Formulary contains a formula for such a pill under the name *Compound Pills of Aloes and Podophyllum*, each of which contains

	Gm	
Aloes	0.06	gr 1
Resin of podophyllum	0.0325	gr ½
Extract of belladonna leaves	0.016	gr ¼
Extract of nux vomica	0.016	gr ¼

For reasons given in a previous article, the last two ingredients might as well be omitted Not only are they useless, but they might do harm, the belladonna by producing dryness of the mouth, and the nux vomica by increasing the reflex excitability and "nervousness" in neurasthenics But why give the patient a 'hand-me-down' article at any time, when he comes to us for individual measurement and fit? Not only is this not best for the patient but it is even worse for the physician By getting into the lazy habit of prescribing ready-made preparations, he loses in aptitude and power of devising combinations of his own How miserably dependent we become when we practice prescribing according to formularies will be painfully evident to the routine C C pill and A S and B pill prescriber who might desire to reform But it is worth the effort, and the attempt to get out of the rut should be made before a sclerotic condition of habits of thought and action have made such a change impossible

(To be continued)

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[1] Alvarez W C The Syndrome of Mild Reverse Peristalsis J A M A 69 2018 (Dec 15) 1917

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

CHLOROXYL —Cinchophen hydrochloride —Phenylcinchoninic acid hydrochloride $C_6H\ C_9H\ NCOOH\ HCl$ The hydrochloride of 2 phenyl quinoline 4 carboxylic acid

Actions Uses and Dosage —The same as that of cinchophen (see New and Nonofficial Remedies 1920 p 224) Phenylcinchoninic Acid (Cinchophen) and Phenylcinchoninic Acid Derivatives

Manufactured by Eli Lilly and Co Indianapolis Ind U S patent No 1 306 439 (June 10 1919 expires 1936)

Chloroxyl Tablets 5 grains —Each tablet contains chloroxyl 0 325 Gm (5 grains)

Chloroxyl is a yellow crystalline powder with an astringent slightly bitter taste It is insoluble in water ether or chloroform but slightly soluble in alcohol

When dry chloroxyl melts at about 223 C

Accurately weigh about 2 Gm chloroxyl add 250 Cc half normal volumetric sodium hydroxide solution and heat on a boiling water bath for one hour Determine the excess of sodium hydroxide by titration with half normal hydrochloric acid volumetric solution using phenolphthalein as indicator Chloroxyl contains not less than 12 per cent nor more than 12 8 per cent combined hydrochloric acid (each Cc sodium hydroxide solution is equivalent to 0 0091 Gm HCl)

Dissolve 2 Gm chloroxyl in 10 Cc solution sodium hydroxide heat to boiling and while hot add acetic acid until no further precipitate is formed Cool decant the supernatant liquid and wash the precipitate with distilled water until it is free from acetic acid Dry the precipitate at 100 C This precipitate responds to the U S P tests for phenylcinchoninic acid

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Inexpensive Breakfast Food —Dr J G Grant Akron Ohio writes Most people are now interested in reducing the high cost of living For those who use wheat breakfast food I have a suggestion after having tested this plan more than a year Buy wheat from a farmer or dealer and grind it in a coffee mill or food grinder For two dollars I bought a spice mill which is larger than a coffee mill This food is excellent and many times cheaper than that sold in packages

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY FEBRUARY 14, 1920

EFFECTS OF QUININ ON THE TISSUES

There are circumstances in which the vigorous action of adequate quantities of quinin in the circulation is highly desirable The alkaloid itself is rather insoluble, but some of the salts of quinin are fairly soluble, and are absorbed with considerable readiness from the gastro-intestinal canal The Pharmacology of Useful Drugs,[1] issued by the American Medical Association, makes it seem probable that too much importance has been attached to the influence of the degree of solubility of the salts of quinin on their absorption, and too little attention to the selective capacity of the gastro-intestinal tract for absorbing them In the United States, in contrast with European countries, quinin sulphate is the salt generally prescribed, although the hydrochlorate is decidedly more soluble and ought to be preferred However that may be, numerous endeavors have been made to secure more effective quinin therapy, particularly in malaria, by modes of administration other than the usual oral path

Baccelli first suggested the intravenous injection of solutions of salts of quinin when the symptoms of malaria are so severe as to threaten grave peril to the patient Subcutaneous or intramuscular injection has also been recommended and frequently employed, particularly in critical cases Despite the use of care in giving such treatment, much discomfort and pain may be caused, and even if aseptic precautions are studiously applied, a considerable amount of induration if not actual abscess formation is likely to occur at the site of injection Most therapeutists recognize this danger and warn against it

That tissue necrosis is produced by strong solutions of quinin salts need not be a surprise when it is recalled that for more than half a century the substance has been regarded by toxicologists as a protoplasmic poison capable of destroying various forms of animal and vegetable cells The suggestion has at times been made that, because of the observed tissue damage following intramuscular injections, this mode of administration should be abandoned A recent experimental inquiry by Colonel Dudgeon[2] of the British Army Medical Service on the effects of injections of quinin into the tissues throws new light on the actual conditions developed by the procedure It had been suggested that in order to avoid the untoward results, intramuscular medication should be carried out only with dilute solutions Dudgeon points out, however, that injection of quinin in solutions so dilute as to avoid edema and tissue necrosis is not of practical utility in man Concentrated preparations of quinin produce more intense necrosis than do dilute ones, but when the latter are such as to be of therapeutic value, they also excite the tissue changes at the site of infection

A concentrated solution of quinin is absorbed rapidly from the tissues even in patients who are moribund Dudgeon insists on the necessity of realizing that tissue necrosis—spreading edema and local blood destruction—are produced by the solvents frequently employed for quinin administration, and the effects are only slightly inferior to those excited by the quinin salts and the alkaloid No advantage was gained by the addition of oil or by injecting the alkaloid dissolved in alcohol or ether Necrosis of blood vessels in the area of injection is a common result This leads, according to Dudgeon, to hemorrhages into the tissues Extensive damage of these sorts in the neighborhood of an important nerve trunk may result in nerve palsy

It may be that a choice between disadvantages will dictate the continuance of intramuscular injections of quinin If so, the limitations and dangers of their use in practice need to be appreciated clearly and specifically Daily doses administered for periods of a week and more in the gluteal region—a favorite site of injection—are not unknown Such cases have been found, further, to retain only fragments of healthy tissues in the muscular tracts involved Hence one can appreciate the force of Dudgeon's warning that repeated intramuscular injections of quinin should not be given into the same area of muscle or tissue directly adjacent, because otherwise permanent injury of muscle or nerves may result

THE MENTAL CONDITION PRECEDING SUICIDE

It is a curious but well substantiated fact, commented on some time ago in The Journal,[3] that there are fashions in suicide just as there are in almost every other human activity Indeed the fashion changes not only with regard to the methods employed for terminating existence, but also in the whole attitude of peoples toward suicide In the days of the ancients, suicide was not regarded as a crime The Stoic school of philosophy taught that every person had the right to decide whether or not to continue in this life

In the United States alone about 10,000 persons annually terminate their existence by self destruction

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[1] Hatcher R A and Wilbert, M I Pharmacology of Useful Drugs Chicago American Medical Association 1915

[2] Dudgeon L S On the Effects of Injections of Quinin into the Tissues of Man and Animals J Hyg **18** 317 (Oct) 1919

[3] The Style in Suicide and Homicide Current Comment, J A M A **73** 1367 (Nov 1) 1919

This large number of deaths naturally brings up the question of the prevention of suicide, which in turn leads to a consideration of its causes Since self destruction is no longer countenanced by public opinion, the number of suicides has decreased considerably, and it is safe to assume that persons seldom resort to the procedure unless they are mentally abnormal or unless there are strong reasons of an unpleasant nature Certain psychiatrists, Forbes Winslow, for example, have held that invariably persons who commit suicide are mentally abnormal, but there is little doubt that this view is not correct In the case of criminals, particularly, there is evidence of deliberate suicide by persons perfectly capable of understanding the nature of the act The fact remains, however, that in existing circumstances the majority of those who take their own lives are mentally abnormal Recently Brend,[4] in discussing the mental condition preceding suicide, has shown that probably 50 per cent of all such persons are definitely insane, and that most of these are suffering from melancholia, chronic alcoholic insanity, or the hebephrenic form of dementia praecox The statistics from certain European army hospitals indicate that patients suffering from psychoses, particularly those of the manic-depressive type, are much more likely to commit suicide than patients suffering from neuroses Neurotic persons frequently discuss suicide and express fear that they will do away with themselves, but they hardly ever reach the point of actually attempting self destruction Figures quoted by Brend show that among 3,700 patients suffering with neuroses there were only one suicide and two unsuccessful attempts, whereas among 3,000 patients suffering from psychoses there were three successful suicides and 105 unsuccessful attempts It is tolerably clear, therefore, that a considerable proportion of all suicides occur in mentally abnormal persons

The question of the prevention of suicide is intimately associated with the early detection and treatment of insanity At present, agencies for the early detection and treatment of insanity are conspicuous chiefly by their absence This is true not merely in the United States but throughout the world Some progress has been made in combating this condition by the establishment of psychopathic hospitals and by the educational efforts of bodies like the National Committee for Mental Hygiene and its allied state committees, but material progress will not be made until the public has been educated to a more acute appreciation of the importance of the early detection of mental disease, and until the facilities for the early treatment of mental cases under voluntary commitment to a hospital for the insane have been widely extended It is quite certain that more widespread education in mental hygiene would result in a reduction in the number of suicides

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[4] Brend W A The Mental Condition Preceding Suicide Practitioner **103** 1401 (Dec.) 1919

AMEBIC DYSENTERY IN THE UNITED STATES

Scarcely thirty years have elapsed since Osler[1] published what is believed to be the first report in this country of a case of dysentery in which amebas were found in the stools Not long afterward Lafleur[2] reported another case and demonstrated the living parasites Welch remarked on this occasion that it was the second case of dysentery reported on this continent and the first exhibit of the organism before a medical society in this country

We have been inclined to regard intestinal amebiasis as something belonging to the tropics and foreign to the United States The disorder has consequently been expected only in persons who have recently returned from tropical countries Nevertheless, amebic dysentery has been by no means unknown in the Southern United States, and sporadic cases have been reported from time to time in New England, as well as in the Eastern, Central and Western states In 1909, Patterson[3] collected records of the disease in twenty-four states, many of them in the Northern sections of the country Since then practically all of the states have been shown to harbor patients with amebiasis

Although this type of dysentery has rarely been epidemic in temperate climates, occasional outbreaks have been known to occur, as for example in the German army in East Prussia in 1901[4] More recently, the special examinations of the feces of very large numbers of persons for intestinal parasites have directed attention anew to the possibility of the existence of amebiasis in this country to an extent formerly unsuspected Instructive instances have been furnished by the division of parasitology of the California State Board of Health[5] As a result of a circular letter to forty-five hospitals at points widely distributed throughout the state, a total of fifteen cases of amebic dysentery was reported from eight of these institutions Out of seventeen cases there were at least six in which the disease seems to have been contracted in California If a necessarily cursory survey brought to light such a number of cases, it can scarcely be doubted that amebiasis is more prevalent than the identified instances directly indicate

The situation is complicated further by the undoubted existence of carriers who reveal absolutely no dysenteric symptoms, yet harbor the parasitic organism in some form Although the motile stages of *Endameba dysenteriae* are very sensitive to change and cannot readily withstand conditions outside of the hosts, this is not equally true of the cysts of the organism. When the latter are voided with the feces, they are apparently very resistant. They survive for considerable periods in water, and this fact is important in relation to the spread of amebiasis. Ordinary bacterial examination of water will not reveal the presence of endamebic cysts. The water may carry contamination to garden produce as well as directly into the drinking supply.

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[1] Osler William On the Amoeba Coli in Dysentery and in Dysenteric Liver Abscess Bull Johns Hopkins Hosp **1** 53 (May) 1890

[2] Lafleur Demonstration of Amoeba Coli in Dysentery Bull Johns Hopkins Hosp **1** 91 (Sept) 1890

[3] Patterson H S Endemic Amoebic Dysentery in New York with a Review of Its Distribution in North America Am J M S **138** 198 1909

[4] Strong R P Amebic Dysentery cited in Osler s Modern Medicine **1** 489

[5] Cort W W and McDonald J D Amebic Dysentery in California J Infect Dis **25** 501 (Dec.) 1919

The California investigators, Cort and McDonald, have pointed out that countries with long, dry seasons or those with long periods of temperature below the freezing point will find in natural conditions a considerable check on the distribution of amebiasis. However, conditions might occur in almost any country at almost any time under which there would be sufficient moisture and a high enough temperature to make possible the transfer of the cysts in a viable condition from one person to another. On the other hand, as Cort and McDonald further point out, California is unique in having certain conditions favorable to the spread of amebic dysentery. Within the state are large numbers of people from countries where the disease is prevalent, many of whom are undoubtedly carriers. A large majority of these raise garden produce, or become cooks and domestic servants. The state also has extensive irrigated areas that are seldom, if ever visited by a freezing temperature for a considerable period. California is also uniquely situated with respect to the introduction of the disease. Yearly there have come in a large number of immigrants, the greater part of whom have settled in the state. These immigrants have come principally from Japan, China and India, where intestinal protozoa are common.

WHAT IS SO-CALLED SCIENTIFIC DRINK CONTROL?

The legal controversies and the debates that have been initiated by the enforcement of nation-wide prohibition in the United States have unexpectedly emphasized that many of the essential facts regarding alcohol and its action are not yet known to science. This is surprising, in view of the extent to which alcohol has been and still is being consumed by man. Nevertheless, it is true that there exist scarcely any manuals which may be referred to by the general reader for authoritative statements of unbiased expert opinion regarding a subject of such widespread interest. Most of the evidence is tinged either with the prejudice of the temperance fanatic or the insidious propaganda of ex parte influence.

The markedly lowered death rate from alcoholism following the legal prohibition of alcoholic beverages in one of our largest American cities was recorded recently in The Journal.[1] In Great Britain the lessened number of convictions for drunkenness following the decreasing sale of alcoholic drinks during the war period has frequently been cited. It is becoming evident throughout the civilized world that either the most objectionable results of drinking must be eliminated by some sort of reform or else the prohibition wave is certain to sweep beyond the shores of the Atlantic. Thus the problem of drink regulation has been brought into new relief. The chairman of the Central Control Board for Liquor Traffic in England, Lord D'Abernon,[2] has thus expressed the hope of the reformers who face the alternative of liquor suppression:

> If by the method of regulation on physiological principles we can secure adequate results for the health and sobriety of the nation these results will be attained with less apparatus, *with less risk of creating alternative evils with less loss* of revenue, with less disturbance of trade and less abrupt violation of the habits of the community.

Prohibition as a national possibility has still for the most part to demonstrate its results and its limitations in this country. It is a new social experiment on a huge scale. Meanwhile we may do well to examine judicially the scientific basis of some of the proposals of those who would regulate rather than prohibit the liquor traffic. Aside from the irritant action of concentrated solutions on the mucous membranes, the pharmacologic or toxicologic effects of alcohol depend primarily on the concentration which it attains in the circulating blood. The Advisory Committee of the Central Control Board in London, including scientists of recognized talent, has directed the investigation of the comparative effect of identical doses of alcohol in dilute or concentrated solutions, respectively. The outcome showed that with dilute solutions the maximum level of alcohol in the blood is lower than when the drug is taken in concentrated form.

The bearing of this on the difference between alcohol in the forms of beer, wine and distilled liquor is obvious. But it was further demonstrated that the same amount of alcohol taken in the form of beer was decidedly less intoxicating than spirits diluted to contain the same dose of alcohol in equal volume. The reason is not demonstrated, but since beers contain ingredients other than alcohol it is presumably allied to the well known fact that alcohol taken with foods is absorbed more slowly than when it is drunk on an empty stomach. The cocktail and analogous drinks are thus condemned on physiologic principles.

Lord D'Abernon, who presumably speaks with the authority of large groups of conservative Britons, has also discussed the plan of discontinuity of drinking hours—a device, somewhat comparable to the preferment of dilute alcoholic beverages, intended to decrease the evils of drunkenness simply by diminishing the amount of liquor drunk at one time. Experience in Great Britain has unexpectedly disclosed that restricted hours for liquor traffic do not accomplish the end sought.

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[1] Prohibition and the Death Rate, editorial, J. A. M. A. 74: 109 (Jan. 10) 1920.

[2] D'Abernon: The Scientific Basis of Drink Control, Address at the Autumn Conference of the Society for the Study of Inebriety, Oct. 14, 1919, Brit. Jour. Inebriety 17: 73 (Jan.) 1920.

The oxidation and elimination of alcohol proceed at only a moderate rate. According to Mellanby's experiments, the quantity of alcohol included in 2 pints of beer—about 45 c.c. of alcohol—requires an interval of three or four hours before it is completely burned or excreted. Superimposing an extra dose of alcohol within the interval brings the risk of inebriation. Lord D'Abernon points out that no benefit will result, therefore, through drinking less concentrated alcoholic beverages at intervals curtailed and regulated by law, if liquors of high alcoholic content can be consumed within the limited period.

We are told that it is more important to regulate how a nation drinks than how much it drinks. One may accept the principles of the use of drinks of low alcoholic content and the regulation of drinking hours, perhaps so as to make them coincide more nearly with meal hours, as the essential conditions for any promising system of drink control short of prohibition. But it remains to be demonstrated that rationing beer, or restricting the opening hours of the saloon, or any other governmental system short of the elimination of the liquor traffic, will accomplish for human welfare what is expected of prohibition in the United States. Nowadays scientific experiments are being conducted on a national scale.

Current Comment

NEW TARIFF ON DYE PRODUCTS

An event of uncommon interest to the medical profession is the amendment adopted by the subcommittee of the Senate Finance Committee to the bill placing a duty on dyes imported into the United States. This amendment places a tariff of 45 per cent. on the higher saccharids, adonite, arabinose, dulcitol, galactose, inosite, inulin, levulose, mannitol, mannose, melizitose, raffinose, rhamnose, sorbitol and xylose. Prior to the war these chemicals came exclusively from Germany. Their manufacture in this country started as a result of stoppage of importations. Medical officers of the army succeeded in having these chemicals manufactured in the United States, and this protective tariff will, it is believed, save this industry and permit its future development. The tariff was advocated by Professor Stieglitz, chairman of the Committee on Synthetic Drugs of the National Research Council, by Colonel Reasoner, in charge of the field medical supply depot at Washington, and by Colonel Russell of the Army Medical School. Colonel Russell said:

> Many of the rare sugars are used in bacteriology in the differentiation of various disease producing micro-organisms. It is a well established fact that certain bacteria, as for example the bacillus of typhoid fever, use certain sugars and from them produce acids and other products which we can measure or detect if present only in small amounts; some organisms, such as the colon bacilli, produce not only acid but gas, which is caught in a fermentation tube, measured and analyzed. The differentiation of the real from the pseudo-organisms of diphtheria and some other diseases depends on sugar fermentations and on animal experiments.
>
> The quantities used in any one test are quite small, but a large variety, and a good supply of the principal sorts is indispensable, and we should not be satisfied to rely in the future on other countries for products of such fundamental importance but should aid the growing industry which is *now being organized in the United States.*

SPEAKING OF GLANDS—

Although the glands of internal secretion have been a source of interest to the medical profession for some time, it is only recently that the attention of the lay public has been called to these structures. During the recent illness of one of our noted statesmen, widespread discussion of one of these glands was common even in polite society. The subject was considered from every possible point of view, and it is doubtful whether there is any well-informed person today who has not some vague idea of the functions of this particular structure. Later, sensational newspapers made much of the discovery—if it should be called such—of the Frenchman Voronoff, that the interstitial cells of the testes might be used to stimulate growth and, as the newspapers would have it, perpetuate youth. Little has appeared in scientific literature concerning this point. However, Macht[1] has just reported that feeding of prostate gland tissue to tadpoles resulted in stimulation of the metabolism, hastening metamorphosis, with the further result that the size of the tadpoles was not diminished but in many cases actually increased. This effect was produced by feeding the desiccated prostate of the ram, the bull and also that of human origin. It has been known for some time that feeding of thyroid tissue also hastens metamorphosis. In the case of the thyroid, however, there is a shrinkage or dwarfing in the size of the tadpoles as contrasted with the observation that prostate feeding produces increased size and more rapid growth. Controlled experiments made with other desiccated glands fail to produce a similar effect. We are thus beginning to gain an inkling of knowledge regarding certain growth-producing factors of the human organism. One may yet see "gland fathers" and "gland mothers."

WHAT IS THE MATTER WITH ARKANSAS?

Arkansas evidently still elects to be the dumping ground for quacks, charlatans and half-baked medical practitioners coming from schools not recognized in the majority of states. A legislative effort was made recently to secure a new practice act by which this could be prevented, but the bill was killed. Instead of having a single board with a reasonable minimum standard of educational qualifications for those who are to obtain the legal right to treat human disorders, Arkansas has at present divided the authority among six different boards. It now has not only a regular board of medical examiners but also a homeopathic board, an eclectic board, an osteopathic board, a chiropractic board and an optometry board. Any other cult seeking recognition could doubtless easily secure it in the wide open and generous state of Arkansas Through the eclectic board in Arkansas, a low grade so-called eclectic medical school in Kansas City, the Kansas City College of Medicine and Surgery, not recognized in Missouri—its home state—continues to exist, since its graduates have easy entry into Arkansas Through the existence of the several boards, others may prey on the public of Arkansas without first obtaining reasonable qualifications of preliminary and medical education How long are the people of Arkansas going to stand for such flimsy protection against ignorance and incompetence? Do they appreciate the fact that they themselves are and will be the sufferers?

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[1] Macht, D. I.: On the Effect of Prostate Feeding on the Development of Tadpoles, J. Urol. 3: 411 (Oct.) 1919.

DEATHS FOLLOW THE EATING OF RIPE OLIVES

The death of six persons in Memphis, Tenn , following the eating of ripe olives, with a fatal prognosis in a seventh case, are reported in the General News department in this issue Investigation has already revealed the fact that these deaths were due to *Bacillus botulinus,* the olives being packed by the "cold pack" method The brief report thus far available indicates that the food product in question was a part of a salvaged stock and that the olives when found possessed a noticeably pronounced foul odor Deaths have previously been reported from the same source in Canton, Ohio, Detroit and New York, and wide prominence has been given to the fact that all of these deaths followed the eating of ripe olives And yet there will no doubt continue to be persons who will eat noticeably spoiled food, just as there are persons who attempt to outrace railroad trains over grade crossings, persons who step off moving street cars backward and some who refuse vaccination against smallpox

COMMERCIAL DOMINATION OF BIOLOGIC THERAPEUTICS

The danger of commercialized therapeutics has been enormously increased by the introduction of biologic products These substances offer a rich field for the commercially minded, first, because of the remarkable results which seem to have followed the use of certain products of this type, second, because the field is new and the mode of action of these substances not readily understood and, third—and most important—because, by the very nature of the problems involved, few physicians are well informed concerning them The influenza epidemic of last year was widespread and fatal in character It stimulated earnest research in methods of prevention and cure We were all in a frame of mind to grasp at any straw Here and there some worker would cry "Eureka"—only to be disappointed when his product was actually put to the test However, there were more than enough manufacturers ready to place any product on the market with specious claims that could not be positively denied Vaccines, serums, proteins—all were advanced with such glowing statements as to their properties that only those physicians who kept their feet firmly on solid ground could resist the appeal Now we have had another epidemic—mild, it is true—but the memories of last year make the average physician ready to accept anything which promises hope, and the manufacturers—"make hay while the sun shines" Physicians have been and are being deluged with literature on the prophylaxis and treatment of influenza So far as we know, few publications have contained any word of warning on these matters One exception has just come to notice the *Medico-Military Review,* a semimonthly mimeographed publication sent to medical officers of the Army by the Surgeon-General's Office This says

> You Are Reminded that so far a comprehensive analysis of results obtained by the use of monovalent and polyvalent vaccines in the prevention of influenza has not demonstrated their value Much carefully controlled experimental work is now being carried out on this subject both in civil institutions and in the Army, and any worthwhile advances will be reported in the *Review* from time to time If a prospective vaccine is developed it will be prepared at the Army Medical School for general distribution and all medical officers will be duly notified The general use of the present commercial polyvalent protective against influenza is not considered desirable Numerous telegrams and other requisitions are being received for influenza vaccine In view of the fact that no prophylactic influenza vaccine is available, such requisitions should be discontinued

Association News

ELECTIONS BY BOARD OF TRUSTEES

Council on Pharmacy and Chemistry

At the annual meeting of the Board of Trustees held at the headquarters of the Association, February 6, Drs F G Novy Ann Arbor, Mich , G W McCoy, Washington D C and George H Simmons, Chicago were elected members of the Council on Pharmacy and Chemistry

Editorial Boards of Publications

The following were elected members of the editorial boards of the special journals published by the Association as indicated Dr Joseph L Miller Chicago, *Archives of Internal Medicine,* Dr Fritz B Talbot Boston *American Journal of Diseases of Children* Dr Frederick Tilney, New York, *Archives of Neurology and Psychiatry* and Dr Samuel T Orton, Iowa City to fill the unexpired term of Dr August Hoch deceased, *Archives of Neurology and Psychiatry*

THE NEW ORLEANS SESSION

Hotel Reservations for the New Orleans Session

The chairman of the Local Committee on Hotels Dr J J Wymer 1216 Maison Blanche Building, New Orleans, urges those who plan to attend the annual session of the Association at New Orleans April 26 to 30 to make hotel reservations promptly (For hotel headquarters see The Journal, Jan 10 1920, p 110) The Committee on Hotels will gladly assist those who do not secure reservations at the hotel of their choice to arrange for comfortable lodgings

By Boat to New Orleans

The schedule of the Southern Pacific Steamboat Line announces a boat to leave New York on Saturday, April 24 and to arrive in New Orleans at 9 a m Wednesday, April 28 The boat will lie at the Canal Street Pier, New Orleans, until Saturday May 1 Passengers may make arrangements so that they may occupy state rooms for the three days on which the sections meet In this way they will be assured of comfortable lodgings while at New Orleans

Dr Ira J Haynes P O Box 24 Richmond Va who is arranging parties to go by boat to New Orleans reports that already he has received a number of inquiries indicating interest in the proposed excursion and wishes to learn as promptly as possible how many desire to join these parties in order that definite arrangements may be completed Tentatively, he estimates that the time necessary for the round trip by boat will be *about but not over two weeks* that the cost of the trip will be practically equivalent to railroad fare and the cost of sleeping car accommodations and meals If the demand warrants one party will sail from New York and another from some point on Chesapeake Bay The latter will stop at Old Point Comfort and Havana The plans are that these boats shall arrive at New Orleans on Tuesday afternoon in time for the General Meeting the opening meeting of the Scientific Assembly and the passengers will occupy their state rooms during the time of the annual session While in New Orleans breakfast may be obtained on the boat

Pullman Sleeping Cars May Be Parked at New Orleans

Physicians from different points are planning to charter Pullman coaches which will be parked practically in the center of the city so that they may be occupied during the time of the annual session This use of Pullman coaches is common at the Mardi Gras and other large gatherings in New Orleans It provides reasonably comfortable lodgings at moderate rates Parties starting from different points may charter a Pullman car and retain it throughout the session in this way being assured of comfortable accommodations on the going and returning trip as well as while in New Orleans The terms including the charges may be obtained from the railroad ticket office at the point from which such parties will start for New Orleans

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Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION PUBLIC HEALTH ETC)

ARKANSAS

Baby Clinic at Little Rock—The United Charities Association Little Rock has opened a baby clinic at the Armory City Park where a nurse is in attendance from 1 to 3 p m to instruct mothers on the care of babies On Wednesdays from 1 to 2 p m babies will be weighed and examined by the physician in charge When babies are too ill to be brought to the station the nurse will visit the home

Hospital News—Governor Brough has issued a proclamation calling on the people of the state to support the campaign for raising $500 000 for the erection of a childrens hospital in Arkansas Plans for the hospital have been completed It will be of fireproof construction throughout The site for the hospital has not been selected——Through the cooperation of the city and the Medical Department of the University of Arkansas the free dispensary in the Isaac Folsom Clinic Building Little Rock has been reorganized and reopened A pharmacy a laboratory and a roentgen ray department have been installed and a clinical clerk has been employed

ILLINOIS

Cost of Influenza—The state director of health estimates that the influenza pneumonia epidemics of 1918 and 1919 have cost the people of Illinois more than $125 000 000 The value of the life of an adult is placed at $3 000 and that of a child at $500 During the year ended June 30 1919 there were 223 683 cases of influenza and pneumonia with 25,222 deaths

Chiropractor Serving Jail Sentence—Mrs Emma Calvin of Monticello is now serving a jail sentence for violating the medical practice act Mrs Calvin is a member of the Illinois Association of Chiropractors and the secretary of the association with headquarters at Joliet has sent out a letter to other chiropractors urging that Mrs Calvin be supplied with reading matter during her incarceration

Personal—Dr Albert R Trapp Springfield is reported to be seriously ill with pneumonia——Dr Charles E Dorr Worden was recently attacked on the street by a coal miner and sustained fractures of the nasal and one of the malar bones——Dr William H Grayson Granite City the oldest member of the Tri-City Medical Society was the guest of honor at a banquet given by that organization January 25

What Medical Freedom Advocates Want—The advocates of medical freedom propose the following as a section of the bill of rights in the contemplated new constitution of the state of Illinois The free exercise and enjoyment of the profession and practice of the art of healing without discrimination shall be forever guaranteed and no person shall be denied any of his opinions in the field of that art but liberty of conscience hereby secured shall not be construed to dispense with sanitation in the sense of cleanliness or excuse acts of licentiousness or justify practices inconsistent with the peace and safety of the state No person shall be required to obey or to pay taxes to support any practitioner or any system of healing against his consent nor shall any preference be given to any school or system of healing

Chicago

Joint Meeting—At a joint meeting of the Chicago Medical Society and Chicago Pathological Society held February 11 papers were read by Dr Harry Gideon Wells on the Pathological Characteristics of Tumors in Mice and Their Relation to Human Tumors' illustrated by lantern slides and by Dr Maude Slye on The Inheritability and Biological Characteristics of Tumors illustrated by charts

Indictments—Indictments were returned by the Federal Grand Jury January 21 against William H Sage former head of the narcotic division of the Internal Revenue Bureau Dr Joseph A Greaves and Hyman Cohen proprietor of the William H Sage Drug Co charging them with violation of the Harrison Narcotic Law——Dr Anna B Schultz is reported to have been arrested January 23 charged with writing wholesale prescriptions for liquor

MAINE

Work of State Laboratory—More than $56 000 was saved to the people of Maine during 1919 through 10 000 free tests made by the diagnostic laboratory of the state department of health at Augusta of which Dr Herbert E Thompson Augusta is director and Mrs Ruth Patten is biologist Of these tests 5 837 were made for venereal disease 1 063 for diphtheria, 1 827 for tuberculosis 580 for typhoid 245 for malignancy and the remainder for miscellaneous conditions

New Officers—At the fifty-first stated meeting of the Cumberland County Medical Society Dec. 12 1919, Dr Francis J Welch Cumberland was elected president, Dr Daniel Driscoll Cumberland vice president and Dr Erastus E Holt Jr Cumberland secretary-treasurer——York County Medical Society held its ninety ninth annual meeting in Biddeford January 7 and elected Dr Frank W Smith York Village president, Dr Paul S Hill Saco vice president Dr Arthur L Jones Old Orchard secretary and Dr Carl G Dennett Unity treasurer

Venereal Disease Clinics—Five free clinics for persons suffering from venereal disease who are unable to pay for treatment have already been established in the state These are at the Augusta Health Center with Dr George N Coombs in charge at the Mason Dispensary Portland with Dr Gustav N Pudor in charge at the Eastern Maine General Hospital Bangor with Dr Harrison J Hunt in charge at the Bath Health Center with Dr Langdon T Snipe in charge and at Dr Miners hospital Calais with Dr Walter N Miner in charge Clinics will soon be in operation at Rockland and Waterville

Public Health Work—Under the direction of Dr Leverett D Bristol Augusta commissioner of health a new era of public health work opened in Maine this year when the state was divided into eight health districts with a full time district health officer in each district With one exception the new district officers were physicians qualified both by general practice and by previous health work in their various communities The new officers are Dr Clarence F Kendall Biddeford Dr James W Loughlin Damariscotta Dr Guy H Hutchins Presque Isle Dr Edward P Goodrich Lewiston Dr John F Stevens Millinocket Dr H ort Bangor and Alton S Pope of Watervi went into effect January 1 providing officer either for full or part time shal every community or group of communities in Maine and such appointments are slowly being made in the different towns, subject to the approval of the commissioner

MARYLAND

New Officers—The Caroline County Medical Society at its annual meeting elected Dr Stephen S Stone, Ridgely president, and Dr John R Downes, Preston, secretary-treasurer

Personal—Dr George F Sargent has purchased property near Towson, which he will open as a sanatorium——Dr William E Martin Harrisonville, who has been ill has recovered and resumed practice——Dr Ida M Kahn of China in charge of the first woman's hospital at Nanchangfu and for two years in charge of a hospital for women at Tientsin, spoke at a meeting at the Y M C A in Baltimore, February 8 on her work in China

Hospitals Crowded—Baltimore hospitals, with one exception, are crowded to their capacity with patients The only hospital whose public ward is not crowded is the Johns Hopkins, the largest in the city Dr William L Moss, Baltimore, president of the Maryland Hospital Conference Association, sounded a warning to the community in reviewing the situation, as the condition is growing more critical every day, with the danger from the spread of influenza and pneumonia At the office of the supervisors of city charities, where patients may be designated to the free wards, it was said that the situation never had been so serious The closing of the two colored wards at the Maryland General Hospital because of a shortage of nurses constitutes another serious problem in the hospital situation, as it affects the care of the colored patients

MISSOURI

Porter Addresses Academy—Dr John L Porter Chicago delivered an address before the Kansas City Academy of Medicine, February 13, on Differential Diagnosis of Chronic Joint Diseases'

Personal—Dr Emmett McD Bridgford, Santa Fe, is reported to be critically ill——While a grand jury at Kansas City, January 15, was considering criminal charges against him, Dr John W C Boone Kansas City is reported to have shot and wounded the husband of the woman who had preferred the charges

License Suspended—For soliciting patronage through agents in violation of the medical practice act, the state board of health is said to have suspended the license of Dr Oscar A Young, Excelsior Springs for a period of one year from Nov 10 1919 Dr Young appealed to the circuit court of Clay County which sustained the action of the board

NEW YORK

State Aid for Tuberculous—The legislature has been asked to appropriate $1 000 000 for state aid to tuberculous patients The bill proposes to license boarding houses in the country for the care of tuberculous patients and to assure medical supervision and proper sanitary conditions

Personal—Dr Thomas B Carpenter Buffalo has been appointed director of laboratories of the department of health of Buffalo to fill the place of Dr William G Bissell deceased——Dr George R Little Schaghticoke has been elected and Dr Stanton P Hull Petersburg reelected a member of the board of directors of the Rensselaer County Tuberculosis Association

Semicentennial of Society—The semicentennial anniversary of the Jenkins Medical Society was celebrated at the New York Athletic Club January 8 Dr Henry Moffat Yonkers presided as toastmaster and addresses were made by a number of prominent physicians of New York City The membership of the society is made up of physicians of Mount Vernon and Yonkers

Postgraduate Course at Albany—A course in infectious diseases and public health will open at the Albany Medical College, March 4, and sessions will be held each Thursday until the last week in April An additional day will then be devoted to practical demonstrations and thereafter the class will be in session on Thursdays and Fridays until June 18 The course will be in charge of Dr Charles C Duryee Schenectady to whom all communications and applications should be made

Appropriation to Fight Influenza—A call on the legislature February 2, for an appropriation of $50 000 to combat the influenza epidemic met with instantaneous response From January 23 to February 2, there were reported to the state department of health 799 cases of pneumonia, with 139 deaths, and 5,850 cases of influenza, with twenty-one deaths Advices received at the department of health indicate that influenza is prevalent in rural districts and in Syracuse, Jamestown, Poughkeepsie, Mount Vernon and Albany

New York City

Venereal Disease Lectures—During the month of December, audiences totaling 3 400 men and women attended forty-three lectures on venereal diseases given under the auspices of the division of lectures of the bureau of public health education

County Society Discontinues Prosecution of Illegal Practitioners—Owing to the expense incident to this work the Medical Society of the County of New York has taken action discontinuing the collection of evidence and the prosecution of cases of unlawful medical practice Hereafter all cases of unlawful practice which, in the opinion of censors, require investigation or prosecution will be reported to the police department of the city and the district attorney for action

Establish and Protect Priority to Medical Discoveries—At a meeting of the section on historical medicine of the New York Academy of Medicine February 4, a committee composed of Dr Robert T Morris Dr Thomas L Stedman and Dr A L Soresi suggested the creation of a special medical board that should establish and protect the priority of ideas relating to medical subjects This board should correspond to the patent office, it should patent in its name all new surgical instruments and pay a royalty to the inventors, much as publishers deal with writers of medical books

Associated Physicians of Long Island Elect—At the twenty-second annual meeting of the Associated Physicians of Long Island January 31, the following officers were elected president Dr Henry Goodwin Webster Brooklyn, vice presidents Drs Harris A Houghton, Bayside, Hugh Halsey Southampton, and Joshua M Van Cott, Brooklyn, secretary Dr James Cole Hancock, Brooklyn, and treasurer, Dr Edwin S Moore Bay Shore Following the scientific session a dinner was served at the Montauk Club, after which addresses were made by Father John L Bedford Brooklyn, Hon Walter C Burton, postmaster, Brooklyn, and the Hon Regis H Post, ex-governor of Porto Rico

OKLAHOMA

Tuberculosis Clinic Organized—Under the direction of Drs William E Lamerton, Julian Field and the public health nurse of Garfield County Enid has opened a free tuberculosis clinic

New Officers—At the annual meeting of the Central Oklahoma Medical Association held in Enid January 20, Dr William H Rhodes was elected president and Dr Harry F Van Dever secretary-treasurer, both of Enid

Personal—Dr Francis B Fite Muskogee, has been unanimously selected by the city commissioners to fill the vacancy as mayor——Dr Dock Long Duncan, has been appointed chief physician of the bureau of tuberculosis of the state department of health——Dr and Mrs David A Myers Lawton were seriously injured in San Antonio Texas January 6 in a grade crossing accident in which their automobile was struck by a train——Dr James C Hawkins has been appointed health officer of Blackwell, succeeding Dr Arlington R Havens, resigned

OREGON

Woman Appointed Deputy Health Officer—Dr Emma Maki Wickstrom Portland has been appointed deputy health officer of Multnomah County and has been assigned to duty with the court of domestic relations

Hospital Item—Owing to the need of more hospital space in Portland it is reported that the building at East Second and Multnomah Streets which was begun several years ago will be converted into a hospital of about 100 beds

New Officers—At the annual meeting of the Coos-Curry County Medical Society Dr George Earl Low Coquille was elected president and Dr Philip J Keizer, North Bend, secretary——The Portland Ophthalmological and Oto-Laryngological Society at its annual meeting elected the following officers president Dr John F Beaumont, Portland vice presidents Drs Sherman E Wright and Ralph A Fenton, Portland, and secretary treasurer, Dr C Gertrude

French, The Dalles——At the annual meeting of the Central Willamette Medical Society which includes Linn, Benton and Lincoln counties, in Albany December 5, Dr Robert Bruce Miller Lebanon was elected president, Dr Robert A Jayne, Philomath, vice president, Dr Robert L Wood Lebanon, secretary-treasurer

PENNSYLVANIA

New Secretary-Editor—At the meeting of the council of the Medical Society of the State of Pennsylvania Dr Frederick L Van Sickle Olyphant was elected executive secretary and will be the editor of the *Pennsylvania Medical Journal* beginning with the July issue

Epidemics—The department of public health has instituted active measures for combating the threatened epidemic of influenza A letter has been sent to each physician emphasizing the necessity of prompt report of all cases of influenza and pneumonia——The health authorities of Erie have taken possession of the government dormitories at Fourth and Cascade Streets for use as an emergency hospital during the prevalence of scarlet fever

Arrest of an "Association Doctor"—Alleged to be one of the smoothest 'quacks' operating in this country, Dr John Newhall Kirk was arrested February 6 by chief county detective Major S O Wynne at the instance of Dr Edward Martin the state health commissioner At the same time a fugitive warrant from Baltimore was served on the physician Dr Kirk was operating here as elsewhere under the name of Association Doctors

Philadelphia

Mary Scott Newbold Lecture—Dr Alonzo E Taylor delivered the third of the Mary Scott Newbold lectures before the College of Physicians February 6 on Post War Conditions and Problems of Civic Organization in Europe '

New County Officers—At the business meeting of the Philadelphia County Medical Society held January 21 Dr Herman B Allyn was elected president Dr Benjamin F Devitt, vice president Dr James Morton Boice secretary Dr Charles Scott Miller, assistant secretary and Dr Edward A Shumway, treasurer

Packard Lecture—Sir Arthur Newsholme M D K C B lecturer of public health administration School of Hygiene and Public Health Johns Hopkins University delivered the annual Frederick A Packard Lecture of the Philadelphia Pediatric Society in Thompson Hall College of Physicians, February 10 on Neo Natal Infant Mortality

Campaign for Woman's Medical College—The campaign to raise $250 000 as an extension fund for the Woman's Medical College of Pennsylvania is two thirds completed as the result of an intensive drive from January 8 to January 20 On March 11 the seventieth anniversary of the founding of the college will be marked by special exercises and the building will be open to the public Five teams organized by women interested in social and civic welfare are working for a $60 000 memorial fund as a tribute to the late Dr Anna Howard Shaw

VIRGINIA

Health Department Issues Bulletin—The health department of Norfolk has initiated a monthly digest of its activities, in which current health problems are discussed

Personal—Dr Ira H Thomas Aldie has retired on account of ill health after thirty one years of practice——Dr Joseph E Taylor has been appointed city coroner of Danville, succeeding Dr Edward H Miller Jr, Danville, resigned

Influenza—Up to January 28 1 001 cases of influenza had been reported in Richmond with only four deaths An appropriation of $10 000 to combat influenza was asked from the finance committee of the Richmond city council January 27, by health officer Dr Ernest C Levy

Society Reorganized—The Southwest Virginia Medical Society was reorganized at a meeting held recently at Pulaski Meetings of this organization had been suspended since 1916 The membership of the organization includes residents of the counties of Pulaski Montgomery Wythe Smyth and Washington Members of the profession from counties contiguous to those included and from the cities of Roanoke and Bristol are eligible as associate members Dr Wilson R Cushing Dublin was elected president Dr Joseph A Noblin East Radford vice president, Dr Alfred B Greiner Rural Retreat, secretary-treasurer

WASHINGTON

Personal—Dr Ralph Hendricks Spokane was reelected health officer and secretary of the health board of Spokane January 9——Dr James T Mason Seattle has been appointed a member of the state board of health succeeding Dr Henry H McCarthy Spokane term expired——Dr Claude A Lewis Fairfield has been elected mayor of Fairfield——Dr Richard Connell North Yakima has been appointed physician of Yakima County——Dr Charles C Benedict Enumclaw has been appointed local surgeon for the Milwaukee railway system

New Officers—Lewis County Medical Society at its annual meeting Dec 8 1919 elected Dr James M Sleicher Chehalis president, Dr Frederick J Hackney Centralia vice president and Dr Rush Banks, Centralia secretary——Whatcom County Medical Society at its annual meeting elected the following officers president Dr Hays A Compton Bellingham vice presidents Drs Albert M Dawson Bellingham Charles S Hood Ferndale and Carl C Hills Custer secretary Dr Edward L Brinson Bellingham——King County Medical Society at Seattle January 8 elected as president Dr Homer D Dudley vice president Dr Herbert E Coe and secretary treasurer Dr Howard J Knott all of Seattle——Spokane County Medical Society at Spokane January 8 chose as president Dr Arthur T R Cunningham vice president Dr James D Windell, secretary Dr Fred G Sprowl, corresponding secretary, Dr Edward S Jennings and treasurer Dr John H R Brodrecht all of Spokane By a vote of 65 to 30 the society denied the right of any member to engage in contract work

WEST VIRGINIA

Personal—At the fourth annual meeting of the West Virginia State Hospital Association at Parkersburg Dr Joseph A Guthrie Huntington was unanimously reelected president of the organization

State Society Meeting—At the meeting of the Little Kanawha and Ohio Valley Medical Society in Parkersburg January 20 it was decided that the annual meeting of the West Virginia State Medical Association be held at Parkersburg, May 18 to 20

WISCONSIN

Personal—Prof Henry C Tracy A M Ph D Milwaukee has been appointed professor of anatomy in the University of Kansas Lawrence and Rosedale

Office Building for Physicians—The Beloit Physicians and Surgeons Club January 16 inaugurated a movement toward securing an office building medical laboratory and club room for physicians and dentists to cost $100 000 A committee consisting of Drs Arthur C Helm and Harry E Burger was appointed to take charge of this matter At this meeting Dr Arthur C Helm was elected president Dr Virgil D Crone vice president and Dr Benjamin Fosse secretary treasurer

CANADA

Personal—Dr James Third has resigned as professor of medicine in Queen's University Kingston——Dr Harold P Rogers Toronto has returned after four years service in Mesopotamia and Syria——Dr Alfred K Haywood medical superintendent of the Montreal Hospital has been appointed chairman of the committee of the Canadian National Council for Combating Venereal Disease The council will interest physicians throughout Canada in the venereal disease problem and in plans of the Dominion government for its solution——Dr C M Sellery Toronto who served overseas in England and France has been appointed a medical missionary in China and will take up his work in August——Dr John Noble has been elected chairman of the Toronto Board of Construction

GENERAL

Secretary Houston Requests Appropriation to Combat Plague—Secretary of the Treasury Houston in a communication to Congress has requested supplemental ar tion in the sum of $250 000 to en Publ

Service to continue its work of controlling the outbreak of bubonic plague discovered in New Orleans last October. Since that time the Public Health Service has been spending $50,000 monthly to effect suppression and control of this disease.

Appreciation of Work of Rockefeller Institute.—The Rockefeller Institute for Medical Research has received a letter from Surgeon-General William C. Braisted, U. S. Navy, testifying to his appreciation of the valuable and rendered by the institute in connection with the War Demonstration Hospital, New York City. The assistance was not limited to the active period of the war, but continued after the signing of the armistice and indicated a high standard of efficiency in the institute both as to personnel and equipment.

Bequests and Donations.—The following bequests and donations have recently been announced:

Montefiore Home, Hebrew Orphan Asylum, Sanatorium for Hebrew Children, Blind Asylum of New York, Skin and Cancer Hospital, Servants for the Relief of Incurable Cancer, Beth Israel Hospital and Henry Street Nurses's Settlement, all in New York, each $3,700 by the will of Emma Feuchtwenger.

Clarence Barker Memorial Hospital, Biltmore, N. C., a gift of $50,000 from Mrs. Walker Rathbone Bacon.

Columbia University, for the equipment of surgical research laboratories, an anonymous donation of $6,000.

Grace Hospital, Toronto, $500 by the will of the late Dr. Charles L. Freble, Toronto.

Boat Trip to Mississippi Valley Conference.—The Mississippi Valley Conference on Tuberculosis will be held at Duluth, Minn., September 2, 3 and 4. The Mississippi Valley Council has chartered the S. S. *North American*, which will leave Chicago, August 30, and returning will reach Chicago on the morning of September 7. The cost of the trip, including war tax, sleeping accommodations and breakfasts in Duluth, will be $80. The only additional expense will be luncheons and dinners at Duluth during the three days of the meeting. Reservations may be made on application to Mr. James Minnick, superintendent of the Chicago Tuberculosis Institute, 8 South Dearborn Street, Chicago.

Recommendations Regarding Yale School of Medicine.—After a study of a survey and report as to the School of Medicine of Yale University, Dr. Fred T. Murphy presented his views to the committee on educational policy, which unanimously recommended the following minutes which have been adopted by the corporation:

1. That there is a clear and definite opportunity and obligation of the university to medical education.
2. That the Yale School of Medicine has a valuable nucleus of men and material and sound traditions which rightly justify the development of an institution for medical education of the highest type.
3. That the corporation accept as a policy the development of a medical school of the highest type to include the pre-clinical and clinical years of instruction upon such principles of medical education as may be approved by the corporation after conference with the medical faculty.
4. That every effort be made to obtain at the earliest possible date the necessary funds with which to expand and develop the buildings, the equipment, the instruction and the research and the service in accordance with the best ideals of modern medical education—as an essential unit of our university plan for development.

A Modern Almanac.—The Miners' Safety and Health Almanac for 1920 (Miners' Circular 26), compiled by the U. S. Public Health Service, has just been issued by the Bureau of Mines of the Department of the Interior. This is the second year that the Bureau of Mines has issued this calendar. In addition to the usual information, it contains instructions on the prevention of various diseases and accidents, and shows the miner how he can reduce the risks of his occupation. He is told that sickness means loss of time and money, and that it may mean reduced efficiency or permanent incapacity. There are special articles on influenza and pneumonia, miners' consumption, miners' nystagmus, contagious diseases among children, prevention of coal dust explosions, malaria, flies, typhoid fever, pure drinking water, school inspection, adenoids, "patent medicines," venereal diseases, sanitary housing, dust and ventilation in mines, mine gases and sanitary privies. The reader is advised that "patent medicines" are unnecessary, useless and a waste of money, that frequent and routine physical examinations are a good thing, that clean drinking water is just as essential as clean food, clean air or clean homes. The booklet is copiously illustrated and well printed. Thus the almanac, formerly a medium for the dissemination of misinformation regarding "patent medicines," has become also a worthy agency in providing accurate information on the prevention of accidents and disease.

Botulism from Eating Ripe Olives in Memphis

Newspapers of February 8 reported deaths following the eating of ripe olives this time in Memphis, Tenn. Previous deaths occurred in Canton, Ohio, Detroit and New York, and have been reported in The Journal. The Journal asked Dr. B. W. Fontaine, associate professor of medicine in the Memphis Medical College, for an account of these cases. He telegraphs the following report:

"Thursday afternoon, February 5, at a luncheon given by a weekly social club at the home of Mrs. M. V., there were three guests, the hostess and a 10 year old boy. Later on the husband of the hostess and the husband of another guest joined the party, making seven in all, each person partaking of the refreshments. The first illness, the case of Mrs. H., began ten to twelve hours later, death occurring some time Friday morning, Mrs. H. being found dead in bed at 8:30 a. m. The next death was the hostess, Mrs. V., on Saturday morning at 5 a. m.; the third death, another woman, Saturday afternoon; the fourth, the husband of Mrs. V., Saturday afternoon; the fifth, another guest, Sunday morning; the sixth, the 10 year old boy, Sunday afternoon. The last guest is now seriously ill and is not expected to survive, making six deaths and the seventh case probably fatal. The initial symptoms were referred chiefly to the throat and eyes, the most noticeable symptoms were sensations of constriction about the throat and inability to swallow. Double vision soon occurred in all the cases and was finally followed by blindness. No gastro-intestinal symptoms occurred, except in the case of the boy, who was slightly nauseated. In all of the cases respiration was extremely labored and the pulse was very fast. Prostration was extreme, the temperature was subnormal. All of the patients were entirely conscious to the time of death. Necropsies were not permitted.

"Investigation by the health department discloses the fact that the menu at the luncheon consisted mainly of ham sandwiches, lettuce salad and whole ripe olives. No alcoholic liquors were drunk. Investigation of the jar from which the olives were taken showed that it had contained about fifty olives. Nine olives were found in a dish on the table. It is estimated that each guest must have eaten from four to six olives. The olives were of ripe variety, packed by the cold process in brine and were in a glass jar having a tin top with a rubber seal under the cap bearing the number 3X3602 put on by a rubber stamp. Just below the top around the neck was a paper band bearing the word 'Jumbo.' On the main label just below the band were the words 'Supreme Curtis Olives Corporation, Los Angeles, U. S. A.' In the middle of the label in large type were the words 'Curtis quality, 16 ounces net' and a picture of three or four large black olives. The olives found in a dish on the table had a very objectionable and pronounced foul odor. In the kitchen, on the drain-board was found the empty jar containing about twelve drops of the brine which also gave the same disagreeable odor. The olives were obtained from a store in Memphis of which the principal business is buying and selling salvaged merchandise. The olives were transported by the firm from one of their branch houses in Montgomery, Ala. Investigation reveals that many cases of the same brand of olives were sold by this house. Ten or twelve jars were still unsold which had finally reached Memphis. Examination of the olives by the city chemist and bacteriologist showed them to be soft and black and to have been preserved in brine. The contents of the other jars, similar to the jar in question and put up by the same company, bearing the same label and packing number were without odor and wholesome so far as gross appearance was concerned.

Bacteriological studies in the limited time, necessarily being hurried and incomplete, have revealed an anaerobic motile bacillus, gram positive, morphologically and culturally identical with *Bacillus botulinus*. Injection of the original brine in minute quantity, about one hundredth of a cubic centimeter, subcutaneously into a guinea-pig resulted in death in nine hours with symptoms of labored respiration, ruffling of the hair and dilatation of the pupils, the four feet outstretched.

FOREIGN

Mortality of Lisbon—It is stated from Lisbon that the mortality for the year 1918 exceeded that of any previous year The number of deaths was 17 071 or 5 543 more than the previous year The number of deaths caused by the influenza was 3 692 seven deaths were due to typhus fever No mention is made of the death rate

Prize for Orthopedic Research—The Rizzoli Orthopedic Institute at Bologna, Italy announces that the competing articles or appliances sent in to compete for the Umberto I *prize of 3 500 lire must be in the hands of the president of* the institute before Dec 31 1920 The prize is awarded for the best work or invention in the field of orthopedics and competition is open to physicians of all countries The provisions for the competition will be sent on demand Address the President, Instituto ortopedico Rizzoli Bologna Italy

Surgeons Form Association—Surgeons representing the surgical staffs of all the great teaching hospitals of Great Britain assembled in London January 8 under the chairmanship of Sir Rickman J Godlee London and organized the "Association of Surgeons of Great Britain and Ireland thus following the precedent set by members of the medical staffs several years ago The association will be representative of British surgeons will represent British interests at international surgical congresses and will foster scientific meetings of surgeons from time to time at various centers Sir John Bland-Sutton London was elected president of the association

Physiology at the Paris Aviation Show—The sixth Salon de l aeronautique which was held at Paris the last week in December, was a striking demonstration of the progress in the medical side of aviation since the last Salon in 1913 Two sections were devoted to physiology one more especially civilian and aeronautical the other essentially military and devoted to the study of aviation in general It had six subsections showing the general examination of the candidate for aviation the examination of the nervous system and the senses a full display being made of the instruments and apparatus used in the various tests Among the exhibits in the subsection for examination of circulation and respiration were much enlarged photographs of the blood pressure and pulse curves showing the effect of fatigue on athletes and aviators The various devices for studying and overcoming the effect of rarefaction of the air included Dr Garsaux s automatic oxygen inhaler This supplies 35 liters an hour per person, and automatically increases this supply progressively up to 150 liters at 8 000 feet The Salon exhibited further data showing that there are now fourteen companies of aerial navigation in France and that between May and November 1919 they had a record of 1 079 voyages covering 442 180 kilometers and carrying 1 356 passengers *without the loss of* a *single person* The organizers of this physiology exhibit were Dr Crouzon a leader in the medical features of aviation and Dr M de Fossey who is styled by the *Journal de médecine de Bordeaux* in its report of the exposition the *cheville ouvrière* of this remarkable medical exposition '

LATIN AMERICA

Quarantine Against New Orleans Lifted—It is stated from El Salvador that the quarantine affecting *all* ships *from* New Orleans has been lifted

Dr Lefas Goes to Paraguay—Dr Emmanuel Lefas of Paris has accepted the chair of pathology in the school of medicine of Paraguay and will arrive in Paraguay about the middle of February

Personal—Dr B K Ashford Col M C U S Army of Porto Rico has been visiting in Cuba Sessions in his honor have been held by the Association of the Medical Press of Cuba and the Society of Clinical Studies

New Nurses' School at Nicaragua—Dr Luis Sequeira of Bluefields Nicaragua is about to establish a school for nurses in that city There will be only twelve pupils admitted at first and teaching will be free of charge

Election of Officers—The Sociedade Brazileira de Neurologia Psychiatria e Medicina Legal recently elected its officers for the new year president Prof J Moreira vice president, Prof Abreu Fialho and secretary-general Dr M Pinheiro

Medical Students in Cuba—The number of students enrolled in the School of Medicine and Pharmacy of the University of Havana during the year 1919 1920 is 1 560 distributed as follows medicine 1 037, pharmacy 312, dentistry 170, veterinary 41

Deaths in the Profession—Dr Horacio Rodriguez, aged 56 was the first victim in the profession to succumb to typhus during the prevailing epidemic of typhus at Valparaiso Chile He was connected with the Asistencia Publica in direct charge of typhus patients and leaves a widow and two children

Health Certificates for Colombian Travelers—The office of public health of Colombia has issued regulations decreeing that passengers traveling on outbound ships must be provided with a physician s certificate to the effect that they are not suffering from any contagious disease

Medical Society of Caracas—At a recent meeting held by the medical society of Caracas the following officers were elected president Dr J Sanabria Bruzual vice president Dr B Perdomo Hurtado treasurer Dr Andres Pietri secretary Dr Jimenez Rivero librarian Dr Salvador Quintero and editor of the journal Dr Salvador Cordova

New Leprosarium—A model leper hospital equipped to accommodate several hundred patients of both sexes and all ages is being built some distance outside the city of São Paulo Well appointed laboratories will be established within the hospital to conduct research on the disease The leper colony will have all the facilities pertaining to an independent community, including police and fire departments light and water services cemetery and postal and telegraph offices

Government Services

Major Phelan Receives Special Appointment

Major Henry du R Phelan U S Army has been appointed representative of the Historical Branch General Staff U S Army as liaison officer between the French and American historical sections and attached to the American Embassy, Paris

What the Government is Doing for the Disabled in War

According to the Federal Board for Vocational Training the status of those who were disabled in the world war is as follows in tuberculosis sanatoriums 46 000 in hospitals for treatment 18 000 in asylums 19 000 taking vocational training 27 912 and 5 000 refused government training making a total of 115 000 In addition there are about 200 000 men who are only slightly disabled

A Lapel Button for Members of the Officers Reserve Corps

A circular issued by the War Department January 17 states that a lapel button for members of the Officers Reserve Corps has been approved optional for wear on civilian clothes only The button is of gold one half inch in diameter with the face enameled in the color of the facing of the arm or corps of the service It has the letters U S R in the center The button is to be issued by the Quartermaster s Department

Influenza in Naval Stations

The *Naval Medical Bulletin* issued to medical officers of the United States Navy reports mild epidemics of influenza at the Great Lakes Station and also in the Marine Barracks at Quantico Va The type of the disease is reported to be the same as last year but not so virulent A few cases have occurred at Gulfport Miss and at Charleston S C Special attention is invited to the importance of placing the sick under treatment at once and modifying the routine if necessary so that the well may avoid unnecessarily close contact with each other overexposure to cold and wet and fatigue

Medical Corps Section of Army Relief

A campaign for a new membership in the Medical Corps Section of the Army Relief Society is under way The object of the society is the relief and education of widows and orphans of enlisted men of the regular army and it is requested that all members of the Medical Corps or some member of their family become members of the organization

The dues are $1 a year Application may be made to Mrs Merritte W Ireland the Wyoming Washington D C, or Mrs M A Delaney the Northumberland, Washington, D C

Government Needs Physicians

The United States Civil Service Commission announces that a number of physicians are needed in the Indian Service the United States Public Health Service the Coast and Geodetic Survey and the Panama Canal Service Both men and women are eligible salaries of $200 a month are offered with prospective promotion and higher pay Information and application blanks will be obtained from the commission at Washington, D C or the civil service board at any of the principal cities in the United States

Care of Discharged Soldiers

Over 10 000 discharged disabled soldiers were undergoing treatment in Public Health Service hospitals or under contract with private hospitals during January, according to tabulated returns The number of applicants for treatment under the war risk act is constantly increasing as the men become familiar with the fact that they are entitled to free treatment The United States Public Health Service is now operating forty-three hospitals for the care of discharged, disabled soldiers sailors marines and war nurses, who are beneficiaries of the War Risk Insurance Act

Army Turns Over Hospital Equipment to Fight Epidemic

The Secretary of War has been permitted to turn over to the State of Kansas emergency hospital equipment of the army to check the present influenza epidemic in that state The Senate moved with unusual speed on this resolution, which was passed the day it was introduced Senator Curtis and Governor Allen of Kansas asserted that the Topeka High School has been converted into a temporary hospital and that 150 influenza patients are being treated there Similar conditions exist in many of the Kansas state institutions This is the first instance where state government officials have asked for emergency relief from the War Department

Medical Veterans of the World War

Col Frederick F Russell M C U S Army secretary of the Medical Veterans of the World War states that during January, 143 new members joined making a total membership of 2,542, divided as follows

Medical Corps U S Army	1 116
Medical Corps U S Navy	46
Medical Corps U S P H S	59
Contract Surgeons U S Army	85
Acting Assistant Surgeons U S P H S	44
Members Local Board	512
Members Examiner Local Board	174
Members Medical Advisory Board	506

Army Hospitals in Operation

On January 9 fourteen army hospitals were in operation with 14,370 bed patients distributed as follows

U S General Hospital No 28 Fort Sheridan 2 800 Walter Reed General Hospital Takoma Park D C 1 675 U S General Hospital No 2 Fort McHenry Md 1 447 Letterman General Hospital Presidio San Francisco 1 245 U S General Hospital No 41 Fox Hills N Y 1 518 U S General Hospital No 21 Denver Colo 1 088 U S General Hospital No 6 Fort McPherson Ga 914 U S General Hospital No 19 Oteen N C 887 U S General Hospital Fort Bayard N M 698 Base Hospital Fort Sam Houston Texas 71 U S General Hospital No 31 Carlisle Pa 560 U S General Hospital No 43 Hampton Va 319 U S General Hospital No 20 Whipple Barracks Ariz 351 Army and Navy General Hospital, Hot Springs Ark 155

U S General Hospital No 20 Whipple Barracks Ariz and No 43 Hampton Va will be closed February 15 and such patients as require further treatment will be transferred to other hospitals

Neurosurgical Unit in Richmond

It is announced that Richmond, Va has been selected as the place of the fourth district embracing Virginia Maryland District of Columbia and West Virginia in which a neurosurgical unit is to be established to treat and care for veterans of the world war suffering from injuries of the brain, spinal cord and nerves Arrangements have been made to give treatments at Memorial Hospital, Richmond, and the Retreat for the Sick The personnel of the unit includes Drs Claude C Coleman, Paul V Anderson and John H Baird, all of Richmond, Dr William F Mercer Richmond, will have charge of all cases of diseases of eye, ear, nose and throat, Asst Surg Clavel T Wilfong, U S P H S, will treat all office cases discharged from hospitals in Richmond and all cases sent through hospitals in Richmond will be under the care of Dr William R Jones, Richmond

Legislation for Care of Mental and Nervous Diseases in Men of Army and Navy

A bill has been introduced by Congressman Edward J King of Illinois 'to provide for the segregation and care of men in the Army and Navy afflicted with mental and nervous diseases" The bill provides for the appointment of a Board of Sanitarium Commissioners to be composed of five medical officers in the Army and Navy The board is authorized to select and purchase a site and erect a hospital thereon for the care and treatment of soldiers and sailors afflicted with mental or nervous diseases At present men suffering from these disorders are confined at the Saint Elizabeth Insane Hospital in the District of Columbia and other similar government institutions for the insane The purpose of this legislation is to care for these men at a separate institution where their maladies may be given special treatment and where the sufferers will not be placed in the distressful environment of an insane hospital, as is now the practice It is understood that the bill was introduced at the request of the American Legion Senator McKellar, of Tennessee, has introduced the same bill in the Senate

The Discharged Soldier's Problem

The United States Public Health Service is making wide advertisement of the channels through which a discharged soldier may receive treatment at the hands of the Public Health Service to which he is entitled as beneficiary of the Bureau of War Risk Insurance He may obtain treatment through 1 Application to the examiner of the Public Health Service in the soldier s locality on presentation of an honorable discharge as evidence of his right to such treatment The examiner will examine him, treat him and make provision for necessary hospital care and will also instruct him in making out the necessary forms to be forwarded to the Bureau of War Risk Insurance and to the Federal Board for Vocational Education 2 Application to the Bureau of War Risk Insurance by letter requesting examination and treatment The bureau notifies the district supervisor who in turn notifies the patient to report to an examiner, giving the examiner s name and address and issuing transportation for travel when necessary 3 Application to the American Red Cross, the American Legion county or state board of health or to welfare organizations who will either direct him to the nearest examiner of the service or will take up his case with the district supervisor

Health Conditions of the Army

For the week ending January 30 the admission rate for disease was considerably greater than for the previous week because of the rise of the influenza epidemic Influenza patients are being kept in the hospital until all symptoms of the disease have disappeared and the possibility of pneumonia following has been guarded against This period is at least ten days after the temperature has become normal For this reason the noneffective rate of the Army is very high The increase in the number of new cases of influenza concerns not only the home forces, but also the American forces in Germany and in Siberia

It is noted that the present epidemic of influenza in the United States is not as severe in type as that which occurred in 1918 For comparison the figures from Camp Grant Ill are cited This camp had a most pronounced epidemic both in 1918 and in the present year At the time of highest incidence in 1918 one person out of every 4 28 contracted influenza whereas in the present epidemic one person out of 11 4 contracted the disease In 1918 one of each 16 86 contracted pneumonia, this year one of 141 61 In the 1918 epidemic, one person of 47 62 died this year, one of 399 01 died

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Foreign Correspondence

PARIS

Jan 8, 1920

The Camphor Scarcity

The embargo placed on camphor by the Japanese government, which seek to make Japan the sole source of supply for the crude gum has given impetus to the manufacture of synthetic camphor This scarcity of crude camphor which is reaching an acute stage and threatens to stop the preparation of pure gum in American laboratories has caused manufacturers in the United States to make an effort to estab lish a laboratory for the manufacture of synthetic camphor which would produce sufficient quantities of camphor to supply the needs of their industries Also at Segni Italy, a laboratory for the manufacture of synthetic camphor has recently been established and a similar enterprise is about to be launched in France

Since oil of turpentine can be secured very cheaply by the distillation of resinous woods it is easy to produce synthetic camphor at a reasonable price In all cases in which a hydrocarbon is to be used in the manufacture of synthetic camphor, oil of turpentine proves the most available It happens that France is a large producer of oil of turpentine and it is possible to increase still further our pine forests—the seaside pine in the Southeast and in Algeria The Comite interministeriel des plantes medicinales in collaboration with the Aleppo pine in the western part of France and the Office des matieres premieres, is engaged at the present time in collecting information on the subject of the manufacture of synthetic camphor and in the near future it proposes to call a meeting of technicians and manufacturers with a view to taking immediately the necessary steps to assure to France, as soon as possible its normal supply

But it is to be hoped that the natural camphor may keep its place alongside the synthetic product the manufacture of which is furthered by the existing circumstances In this connection it may be well to mention that the camphor laurel grows naturally in some of our colonies notably in Tonkin (Indo-China) and also in Algeria, where the camphor produced from the leaves is identical with that produced from the same kind of trees in Japan

Reorganization of the Municipal Chemical Laboratory

The municipal council of Paris is considering the interesting proposition of reorganizing the municipal chemical laboratory The purpose of this laboratory when originally founded in 1878 was to protect the public against fraudulent adulteration of wines but the principal function of the laboratory at this time would be the suppression of frauds in general The plan is to make of it a center of scientific study

Opposition to Paid Courses of Medical Instruction

Contrary to the current practice in Germany where university professors often give paid courses of instruction this custom has not been accepted in this country and has been at times severely criticized for example the paid graduate medical course organized by Dr de Lapersonne professor of clinical ophthalmology of the Faculte de medecine de Paris has recently been quite severely criticized by A Reader in the *Journal des Praticiens*

I admit that an eminent physician who is known by his writings his researches or his skill in teaching and being duly authorized may announce paid courses of instruction The poor man who has no private fortune, as is so often the case, cannot spend his time without compensation He may not receive the 15 000 francs of a regular professor which he needs to support himself and family but that a regular professor of the Faculte de medecine de Paris should require fees of his students surpasses all belief and we cannot protest too vigorously against such tendencies which threaten to become general '

Exhibit of French Pharmaceutical Products in Canada

M Beaubien Canadian senator recently paid a visit to the Comite Français des Expositions a l etranger and during the course of his visit suggested a plan by which French interests in Canada might be served namely by an exhibit of French products But as the distances between the cities of Canada are very great he suggested that the exhibit be put on wheels explaining that in a train of eight coaches samples of all French products and more particularly pharmaceutical products might be exhibited Two coaches might be placed at the disposal of the representatives of the exhibitors This traveling exhibit may be taken through all of Canada remaining from two days to a week in various cities according to their importance Moving pictures would accompany the exhibit -

Preferential Milk Tickets for Prospective Mothers

At the suggestion of Professor Pinard the prefect of the department of the Seine has sent out instructions to the maires of twenty arrondissements of Paris relative to supplying prospective mothers with preferential milk tickets These tickets will be issued on presentation of a certificate signed by an obstetric nurse of any of the Paris hospitals and setting forth the necessity of a milk diet the quantity of milk needed daily and the duration of the regimen

Tuberculosis in the Regions of France Evacuated by the Germans

Dr Calmette assistant director of the Institut Pasteur de Paris who in his capacity of director of the Institut Pasteur de Lille has been conducting an inquiry into the state of the public health of Lille during the years of German occupation has recently communicated the sad results of his investigation He thinks the ravages of tuberculosis both glandular and pulmonary, in the countries of the North were due to the restrictive diet to which the children were subjected during the period of occupation Tuberculous children who have been sent out into the country or to the seaside have improved remarkably Calmette recommends that such therapeutic treatment be continued and that all schoolchildren be examined carefully from time to time He also advises the establishment of antituberculosis dispensaries for adults Calmette adds that the appeals of Germans in favor of German children who are suffering in great number must not allow us to forget the lamentable consequences of the inhuman conduct the Germans showed during the long period of occupation toward our own children

History of Medicine and Pharmacy

At the last meeting of the Societe française d histoire de la medecine it was decided to hold a congress of the history of medicine and pharmacy at Antwerp Aug 7-12 1920 coincident with the kermess and the celebration of the Olympian games The principal subjects thus far selected for discussion are Medical iconography and epigraphy a chapter from the history of welfare movements in various countries medical bibliography , monastic and collegial medicine in Belgium and the mobiliary equipment of apothecaries

LONDON

Jan 22 1920

The Prevention of Influenza

In view of the possibility of another epidemic of influenza this winter the ministry of health has been studying the measures to limit its incidence and mortality and has revised a memorandum previously issued on the subject The difficulty of securing a continuous record of true influenza has made it impossible to forcast with any confidence the arrival of the next wave We do not yet know the nature of the virus and the laboratory has not yet furnished a specific form of treatment or prevention Pfeiffer s bacillus cannot be regarded as the essential causative organism but for present purposes is looked on as an important secondary or coincident agent responsible for many of the fatal complications As infection is conveyed by coughing sneezing and even 'loud talking overcrowding should be avoided The evidence collected by the ministry shows that acute and temporary overcrowding in trains cars and places of entertainment is more important than overcrowding in the home Personal protection includes good ventilation good food gargling the throat and douching the nose with 1 5000 potassium permanganate Face masks are advised for those attending the sick but not for the public As regards vaccines it is laid down that since we are uncertain of the primary cause no form of inoculation can be guaranteed to lessen materially the incidence of the disease Vaccines may however lessen the dangers of complications Drugs are of little avail —When attacked the patient should take to bed A standard polyvalent vaccine prepared from strains of Pfeiffer s bacillus pneumococcus and streptococcus appears to reduce materially the liability to complications and the risk of death Therefore it should not be neglected The bacteriologists of the Medical Research Committee believe that in the previous government vaccine the proportion of Pfeiffer s bacillus was too small and that better results might follow the use of a vaccine in which this microbe forms the dominant constituent and of which a much larger dose is given The ministry has accordingly made arrangements for the preparation of a considerable quantity of prophylactic vaccine made from the new formula This will be issued in bottles of 25 c c each to health officers for distribution on demand, and free of charge to physicians, who will be expected not to charge their patients for the vaccine used It is further proposed to arrange for the preparation of vaccines in selected localities from the strains of microbes associated with local cases of influenza The prevention by quarantine of the importation from abroad is regarded as impracticable Health authorities should distribute information to the public by leaflets posters notices and lectures In Sheffield during the last epidemic a 'pool" of unattached physicians was formed with good results their services being placed at the disposal of physicians as required In the larger areas, part of such a pool might be formed from the health authorities' own staffs

Increased Remuneration for Panel Physicians

The increase in the cost of living in this country since the war has amounted to more than 100 per cent and has led to demands for increased wages in practically every calling As reported in The Journal, physicians have increased their fees by 50 per cent The panel physicians demanded from the government an increase of the capitation fee from $2 to $3 25 A deputation of the Insurance Acts Committee of the British Medical Association was received on the subject by the minister of health, Dr Addison He offered to seek the authority of Parliament to pay an increased fee of $2 75 with a mileage fund of $1,500,000 for rural physicians The deputation said that it would feel bound to its constituents not to accept this, but it was empowered to ask for arbitration, which it did After discussion the minister announced that the government would accede to this request The arbitrators' award will operate from April 1, the government agreeing to pay in the meantime a capitation fee of $2 75 The government reserved its freedom to institute at a subsequent date any inquiry that might be thought desirable in the light of the award and the cost of its working into the question whether service as good or better could be secured with the same or less expenditure of money under some other system

As a result no doubt of this increase the government has decided to increase by 6 cents the weekly contributions paid of which 4 cents will fall on the employer and 2 cents on the employed person The rate of sickness benefit is to be increased to $3 75 a week in the case of men and $3 in the case of women Maternity benefit is to be increased from $7 50 to $10 Sanatorium benefit is to be removed from the acts the treatment (other than domiciliary) of tuberculosis among both the insured and the uninsured, being recognized as falling within the province of the local authorities A state system of medical referees is to be established toward which the societies will make a small contribution by way of payment for each case referred

New Hospital for Tropical Diseases in London

The study of tropical diseases in London originated in the Seamen's Hospital at Greenwich where sailors suffering from tropical diseases are received from all parts of the world A branch hospital for tropical diseases containing thirty beds was established in the East End of London at the Albert Docks Among the patients are Europeans of all nations Asiatics Africans West Indians and natives of British and other colonies A laboratory was built in connection with the hospital and more than 2 000 physicians were trained in the study of tropical diseases But the accommodation became inadequate In the University Quarter' of London at Endsleigh Gardens a hospital established for officers during the war was therefore secured In this much more central and accessible position the several departments of the London School of Tropical Medicine will be housed The riverside wards will be retained for patients who for various reasons should not be taken to the new hospital But hundreds of cases of tropical disease in the chronic stage will be available for study in the latter

Death of Sir Thomas Frazer

Sir Thomas Frazer M D F R S emeritus professor of materia medica and clinical medicine in the University of Edinburgh one of the most distinguished investigators of his time who did much in laying the foundations of modern pharmacology and therapeutics has passed away at the age of 79 Born in Calcutta of Scotch parentage he was educated in Edinburgh On graduation he obtained a gold medal for his thesis on the action and uses of Calabar bean (*Physostigma venenosum*) He was appointed assistant to the celebrated Sir Robert Christison in the materia medica department of the University of Edinburgh and, like him, he became a great authority on poisons Among his earlier papers which have become classical, were "The Antagonism Between the Actions of Physostigma and Atropia" and 'The Kombe Arrow Poison" (*Strophanthus hispidus*) On the resignation of Sir Robert Christison in 1877, he was appointed professor of materia medica in the University of Edinburgh He was also appointed physician to the Royal Infirmary, and as a clinician attained the first rank In conjunction with Prof Crum Brown, he made an important investigation into the chemical constitution and physiologic action of poisons for which the Royal Society of Edinburgh awarded them a prize It was mainly through his investigations that strophanthus came into use in therapeutics Some of his best known work was on snake poison His original observations made individually or in association with Major Elliot, continued the investigations of Lauder Brunton and Joseph Fayrer on cobra poisoning Much of our knowledge of the effect on cardiac action of cobra venom is due to his work When in 1894 Calmette published his researches into the immunity against snake venom that followed repeated injections of small doses of rattlesnake poison, Frazer who had already gone over the same ground gave valuable confirmation to Calmette's work, as well as further points as to the nature of the protective action of the antitoxic serum Other original work of the first importance emanating from him was on the salicyl compounds in acute rheumatism the nitrites in the dyspnea of asthma and bronchitis bone marrow in pernicious anemia, opium morphin and codein in diabetes and potassium bichromate in gastric affections He was one of the first if not the first, to teach the expression of dosage in terms of body weight and to analyze pharmacologic action into its component parts All his work was characterized by accuracy and thoroughness In 1894 he delivered the graduation address at the University of Edinburgh in which he uttered a warning that has been needed ever since and is still needed He pointed out that recent advances in organic chemistry had led to the discovery of a host of complex substances with possible pharmacologic actions which afforded a great opportunity to charlatanism He considered that physicians as well as commercial chemists were advocating for all sorts of disease the employment of drugs to which no proper trial could be given The determination of the physiologic action of any substance might require at least six months' study by a skilled investigator Like many of the leaders of the profession he suffered badly in the war He lost one son on submarine service and another as well as a son-in-law, in France One of his sons is a well known New York physician and is at present with the American army on the Rhine

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Marriages

Dwight Chase Sigworth Lieut, M C U S Army, Stanton Neb on duty at Alcatraz Barracks Calif to Miss Irene L Cratty of Elgin Neb at Long Beach Calif February 14

Henry Bloodgett McIntyre Lieut -Col M C U S Army New York City on duty at Fort McHenry to Miss Gladys E Miller at Mamaroneck N Y January 31

Edward Franklin Younger Lynchburg Va to Miss Bessie Mason of Campbell County Va, in Washington, D C December 15

Thomas Wister Edmunds Danville Va to Mrs Sallie Davis Penn of Reidsville N C, in Baltimore, December 20

Clarence Walter Adams Visalia, Calif, to Miss Marie Genevieve Rogers of Spokane Wash, December 15

Charles Lyndon Outland Tarboro N C, to Miss Alice Louise Sadler of Richmond January 21

Harry Emmick Lee Detroit to Miss Jamie Florence Greenlee of Studley Va December 31

Dr Benjamin F Davis Chicago to Miss Marie Lucille Brickson Stoughton Wis February 7

Clarendon Rutherford to Miss Ella Williams McCauley, both of Chicago February 4

Harry S Berman Detroit to Miss Caroline Block of Richmond December 23

Milo Kirk Miller to Miss Freda Anita Strache both of Chicago January 10

Deaths

Elmer Ernest Southard ⊕ Cambridge Mass , Harvard University Medical School 1901, aged 43, chairman of the Section on Nervous and Mental Diseases of the American Medical Association, died in New York City February 8 after two days' illness from pneumonia He was born in Boston and was graduated in arts and in medicine by Harvard University He later studied at Senckenberg Institute Frankfort on the Main and in the University of Heidelberg On his return to the United States he became instructor in neuropathology in his alma mater later assistant professor and since 1909 Bullard professor of neuropathology He was assistant visiting pathologist to the Boston City Hospital in 1904 and 1905 assistant physician and pathologist of the Danvers (Mass) State Hospital from 1906 to 1909, pathologist of the Massachusetts Commission on Mental Diseases in 1909 and director of the Boston Psychopathic Hospital since 1912 He was a director of the Eugenic Record Office Cold Spring Harbor N Y a member of the board of scientific directors of the Bedford Hills Laboratory, Bureau of Social Hygiene New York a director of the Massachusetts State Psychiatric Institute and member of the editorial board of the *Archives of Neurology and Psychiatry* During the war Dr Southard was director of the U S Army Neuropsychiatric Training School Boston unit, and major in the Chemical Warfare Service He had devoted particular attention to the pathology of the brain and nervous system in dementia praecox and published important original investigations on this subject He also advanced an original classification of the psychoses which had aroused considerable interest His most recent publication is a large volume on shell-shock and other neuropsychiatric problems an epitome of war neurology In his death the medical profession loses a specialist of broad vision, a clinician who was preeminently a neuropathologist with broad training and insight into the problems of general medicine

Sir James Alexander Grant K C M G, one of the most distinguished physicians of Canada died February 6 at his home in Ottawa aged 89 He was born in Inverness, Scotland Aug 11 1831 was graduated from McGill University in 1854 and obtained the degrees of M R C P M R C S (Eng) and in 1864 the F R C S (Edin) A year before his graduation he passed the examination of the College of Physicians and Surgeons of Quebec and after graduation located in Ottawa He was a member of the Provincial Medical Council from 1866 to 1869 and its president in 1868-1869 He was a member of parliament from the council of Russell in 1867, and later from Ottawa City serving altogether fourteen years He was made president of the Canada Medical Association in 1874 president of the Royal Society of Canada in 1903 vice president of the International Medical Congress in 1887, was president of the General Hospital Ottawa, and chief of staff for twenty five years In 1887 he was made Knight Commander of Sts Michael and George and in 1910 was given the freedom of the city of Inverness He was an active and honorary member of many scientific societies and of late years had devoted much of his time to geology

John Abner Mead, Rutland Vt College of Physicians and Surgeons in the City of New York 1868 aged 78 a veteran of the Civil War for several years assistant physician at the Insane Hospital Flatbush L I surgeon general of Vermont in 1878 and 1879 first mayor of Rutland a member of the state senate in 1892 and of the house of representatives in 1906 lieutenant governor of Vermont in 1908 1909 and governor from 1910 to 1912, died January 12 from pleuropneumonia

Emil Augustus Herig, Saginaw Mich University of Berlin, Germany 1866 aged 79 formerly president of the board of health health officer and city physician of Saginaw coroner of Saginaw County chief of staff of the Bliss Hospital Saginaw and attending physician to the Saginaw General Hospital once president of the Saginaw Valley Medical College a veteran of the war between Prussia and Austria in 1866, died January 21

Robert William Carter, Montclair N J College of Physicians and Surgeons in the City of New York 1904 aged 44 who went to the Philippines as a missionary of the Presbyterian Board at Dumaguete Maasin and Albay was invalided home ill with tropical sprue in 1913 returned to Dumaguete in 1917 and two years later was transferred home died in the Presbyterian Hospital New York City November 21 from sprue

Julius Stimpson Clark, Melrose Mass , Georgetown University Washington D C 1869, aged 81 a veteran of the Civil War a member of the Massachusetts Medical Society and for seven years president of the Middlesex District Medical Society , from 1870 to 1878 health officer city physician and police surgeon of New Orleans, president of the medical board of the Melrose Hospital, died January 20 from pneumonia

James Jefferson Johnson ⊕ Boggs Okla , Memphis (Tenn) Hospital Medical College 1877 aged 43 a specialist on diseases of the eye ear nose and throat who entered the Army in 1913 and was discharged as captain M R C July 10 1919 and was then attached to the American Red Cross Commission to Siberia died in Siberia December 13 from typhus fever and was buried at Irkutsk

Frederick James Bowles ⊕ New York City University of the City of New York 1884 aged 67 a member of the American Academy of Ophthalmology and Oto Laryngology and the New York Academy of Medicine ophthalmologist otologist and laryngologist to the Bloomingdale clinic, died in the Post-Graduate Hospital New York City January 28 from pneumonia

William Lewis West, Indianapolis Miami Medical College Cincinnati 1876 also a druggist cashier and later president of the First National Bank of Oakland City Ind president of the Farmers and Merchants National Bank Fort Branch Ind and the Citizens Bank and Trust Company of Princeton Ind., died January 2 from heart disease

R K Prewitt, Ackerman Miss , Kentucky School of Medicine Louisville 1882 aged 77 once president of the Choctaw County (Miss) Medical Society and local surgeon for the Mobile Jackson and Arkansas City Railroad a Confederate veteran representative in the legislature from Choctaw County in 1896 died January 22

Francis B Nofsinger, Kansas City Mo University of Nashville Tenn 1864 aged 82 surgeon in the United States Navy during the Civil War, who established the first packing house in Kansas City in 1859 postmaster from 1889 to 1893, county assessor and president of the city council, died January 6 from cerebral hemorrhage

Edward Grant Birge, Iowa City , Johns Hopkins University Baltimore 1907 aged 31 formerly instructor in the department of preventive medicine and hygiene in Harvard University Medical School and later state epidemiologist of Iowa captain M R C U S Army and discharged, Aug 10 1919 died February 4 from pneumonia

Francis Alonzo Bailey, Hillsboro Ore Willamette University Salem Ore 1870 aged 80 a medical cadet in the Confederate Service during the Civil War twice president of the Oregon State Medical Association for several terms mayor of Hillsboro and a member of the city council, died January 23, from pneumonia

Edward William Spragge, Toronto M R C S (Eng) L R C P (Edin) 1868 aged 76 also a licentiate of the Ontario College of Physicians and Surgeons in 1869 for than forty-seven years medical officer of the Toronto police force and surgeon to the Canadian Pacific Railway Company , died December 31

Parker Lloyd Berge, Brainerd Minn University of Minnesota Minneapolis 1913 aged 31 a member of the Minnesota State Medical Association who as a lieutenant M C U S Army was attached to the Aviation Corps for two years and was discharged July 7 1919, died January 22 from heart disease

James Albert Rutledge ⊕ Woodmen Colo Rush Medical College 1866 aged 58 formerly a practitioner of Elgin Ill medical director and superintendent of the Modern Woodmen of America Sanatorium since 1911 a specialist in tuberculosis died in a hospital in San Francisco February 3 from influenza

Tucker Henderson Frazer ⊕ Mobile Ala University of Alabama Mobile 1888 aged 60 dean and professor of obstetrics in his alma mater head of the American Red Cross in Mobile during the world war died in the Southern Infirmary Mobile January 26 four days after an operation for appendicitis

James Elias Seay, Birmingham Ala University [illegible] Bellevue Hospital Medical College [illegible] City aged 41 a member of the Medical [illegible] th

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⊕ Indicates Fellow of the American Medical Association of Alabama, surgeon to the Birmingham Southern Railroad, died, January 26 from cerebral hemorrhage

Abraham Feldman, Hammonton, Calif College of Physicians and Surgeons, Los Angeles, 1916 aged 30, a member of the Medical Society of the State of California, lieutenant, U S N R F, and relieved from active duty, July 11, 1919, died, January 20, from pneumonia

Theodore H Swayne, Chihuahua Mexico, Northwestern University Medical School Chicago, 1895, aged 59, also a graduate of the Faculty of Mexico Medical School, for many years a practitioner of Chihuahua and local railway surgeon, died, January 9, from pneumonia

George Victor Genzmer, Verona N J, Albany (N Y) Medical College, 1913, aged 28, assistant surgeon, lieutenant, U S Navy, and on duty for two years at Pelham Bay Hospital, and relieved from active duty, Sept 4, 1919, died, January 30, from pneumonia

Charles Edward Treble, Toronto Ont, College of Physicians and Surgeons Toronto, 1901, aged 43 in charge of the roentgen-ray department of the Wellesley Hospital, while making his rounds in Grace Hospital, October 29, died suddenly from heart disease

Hudgins S Ellis, Memphis Tenn, College of Physicians and Surgeons Memphis, 1911, aged 36, a member of the Tennessee State Medical Association, died suddenly in St Joseph's Hospital, Memphis, January 25, from acute dilatation of the heart

Mary Frye Barry, Washington D C, Northwestern University Woman s Medical School Chicago, 1887, aged 60, for ten years a practitioner of Colorado, and once a member of the state legislature, died in Colorado Springs, Colo December 8

Harry Stoddard Clever, Tuscarawas, Ohio, University of Pittsburgh, 1897, aged 46 a member of the Ohio State Medical Association, health officer of Tuscarawas, died in Grant Hospital, Columbus, Ohio January 20, from heart disease

Charles O Warner, Warsaw Ill, Washington University, St Louis 1860 aged 89 assistant surgeon of volunteers in the Army during the Civil War, for many years a member of the local school board died, January 15, from bronchial asthma

George R Green, Muncie Ind Medical College of Indiana, Indianapolis 1878, aged 68, a member of the Indiana State Medical Association and lecturer on history of medicine in the Indiana Medical College, died January 24 from pneumonia

Riley J Drew, Alma Center Wis, Medical College of Indiana Indianapolis 1904 aged 45 a member of the State Medical Society of Wisconsin died December 28 in Sacred Heart Hospital Eau Claire Wis from bronchial pneumonia

Joseph Aurelius Young, Caldwell Idaho University of Illinois Chicago 1903 aged 41, was accidentally drowned January 20 when his automobile slid off the ferry platform at Froman s ferry into the Snake River

May Cushmar Rice ⊕ Chicago, Northwestern University Woman s Medical School Chicago 1896 aged 56, a specialist in roentgenology and electrotherapeutics died, February 4, from pneumonia following influenza

Sylvanus Joy, Tillsonburg Ont University of the City of New York 1854, Queens University Kingston Ont 1857 aged 85, for forty five years local surgeon for the Grand Trunk system, died October 31

Robert Kearns ⊕ Middletown N Y, College of Physicians and Surgeons in the City of New York 1888, aged 54 a specialist in diseases of the ear nose and throat, died, January 21 from septicemia

Maurice Henry Miesse, Circleville Ohio, College of Physicians and Surgeons in the City of New York 1868, aged 76 a veteran of the Civil War, died January 21 from cerebral hemorrhage

John Eugene English, Baraboo Wis Rush Medical College 1883 aged 68 for thirty-seven years district surgeon for the Chicago and Northwestern system, died January 24 from myocarditis

Frank A Sabin, Anna Ill Berkshire Medical College Pittsfield Mass 1861, aged 84 an honorary member of the Illinois State Medical Society, died, January 26, from arteriosclerosis

Robert Addison Stevenson, Toronto McGill University, Montreal 1871, aged 73, chairman of the staff and chief of the medical service of Grace Hospital, Toronto, died, November 12

Thomas T Zerbe, Schaefferstown Pa, University of Pennsylvania, Philadelphia, 1869, aged 74, for two terms a member of the state legislature, died, January 26, from cerebral hemorrhage

Thomas Kelly Proctor, Sulphur Springs, Texas, University of Louisville, Ky, 1895, aged 60, a member of the State Medical Association of Texas, died last month, from carcinoma

George Henry Albers, Cincinnati, Miami Medical College, Cincinnati 1887, aged 57, a member of the Ohio State Medical Association, died January 19, from cerebral hemorrhage

John Schulze, Racine, Wis, Bennett Eclectic Medical College Chicago, 1894, aged 68, for more than half a century a druggist of Racine, died January 26, from diabetes

Edward E Engel, St Louis, Washington University, St Louis 1877, aged 66, for thirty-two years a practitioner of Prairietown Ill, died, January 21, from cerebral hemorrhage

Christopher Columbus Lathers, Lieut M R C U S Army Washington D C, Howard University, Washington D C, 1914, aged 40, died January 23, from pneumonia

John M Wiltshire ⊕ Chillicothe Ohio, Starling Medical College Columbus, Ohio 1865, aged 85, a veteran of the Civil War, died January 17, from valvular heart disease

Victor Knapp, Ferdinand, Ind, Medical College of Ohio, Cincinnati, 1881, aged 62, a member of the Indiana State Medical Association, died January 10, from uremia

Alexander Crawford ⊕ Mount Vernon Iowa, Rush Medical College, 1883 aged 61, formerly health officer of Mount Vernon died January 10, from angina pectoris

John M Littler, Fortville Ind and Indianapolis Kentucky School of Medicine, Louisville, 1876, aged 72, died in St John s Hospital, Anderson Ind January 19

Orson S Parker, Aurora Ill, Tulane University, New Orleans 1892, aged 52, a member of the Illinois State Medical Society, died, February 5, from pneumonia

Noah J LaRose, Zion City Ill, Eclectic Medical Institute Cincinnati 1885, aged 68, health officer of Zion City since 1902, died January 18, from influenza

Franklin Newton Hudson, Gadsden Ala, University of Nashville Tenn, 1874, aged 71, died at the home of his daughter in Birmingham, Ala, January 20

Joseph A Liddell, Cedartown, Ga, Medical College of Georgia, Augusta, 1879, aged 65, a member of the Medical Association of Georgia, died January 1

Henry Harlan Townshend ⊕ Hedgesville Mont, John A Creighton Medical College Omaha 1896 aged 51, died, January 10 from cerebral hemorrhage

Edward Burns Hughes, Canton Ill (license Illinois, 1878), aged 78, died at the home of his sister in Ipava, Ill, January 23 from senile debility

Charles Buchanan Young, Lynchburg Va, Hahnemann Medical College Philadelphia, 1881, aged 68, died, January 13 from cerebral hemorrhage

Wallace G Bobb ⊕ Philadelphia, University of Pennsylvania Philadelphia 1880, aged 59, died January 25, from pancreatitis and septicemia

Alexander Duff Stevens, Dunham Que McGill University Montreal 1857 died in the General Hospital, Sweetsburg Que, November 22

Charles H Wells, Philadelphia, Hahnemann Medical College Philadelphia 1891, aged 55, also a dentist, died, January 19 from pneumonia

Charles Franklin Banta ⊕ Eureka Ill, Bellevue Hospital Medical College 1884, aged 63, died in the Methodist Hospital Peoria January 10

Ralph Erskine Moffatt ⊕ Harrisburg, Pa, University of Pennsylvania 1904, aged 43 died January 26, in Cumberland Md, from uremia

Joseph Harris Cowell, Saginaw Mich, University of Michigan, Ann Arbor 1871, aged 72 a veteran of the Civil War died January 18

J L Underwood Cochran, Atlantic City, N J, Louisville (Ky) Medical College 1892, aged 47, died December 24, from acute nephritis

Alfred T Evans, Rayville La, University of Alabama, Mobile 1873 aged 71, died in Providence Hospital El Paso, Texas December 31

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation of the Council on Pharmacy and Chemistry and of the Association Laboratory Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Fraud on the Public and on the Profession

"AUTO-HEMIC SERUM"

A Cure for Laziness, Ugliness, Frigidity and Many Other Things

The following letters are typical of many that have been received asking for information regarding Dr L D Rogers and his 'Auto-Hemic Serum This from a physician in New York state

> Can you give me any information in reference to Dr Rogers of Chicago Ill who has an Auto Hemic Institute?

And this from Kansas

> Just received a letter from a Dr L D Roger 2812 North Clark St who is anxious to sell me a course in Auto Hemic Therapy Would you kindly inform me what he has to sell? He did not tell me what it consisted of am inclined to believe it is a rank fake Kindly let me know what The Journal thinks about it Just what is it? In the letter they claim that it is practically a panacea for every blood disease

This from Maine

> What is Auto Hemic Therapy? I have a handsome red and yellow circular from the Ideal Life Extension Press 2812 North Clark St Chicago soliciting subscription to their publication offering as a bonus this book Auto Hemic Therapy by L D Rogers A M M D LL D Chicago and membership in the American Medical Union

THE NATIONAL MEDICAL UNIVERSITY

In order better to appreciate the probable scientific status of the Auto-Hemic Serum ' it is well briefly to sketch some of the previous activities of its discoverer Dr L D Rogers For many years Rogers was the head and chief owner of the National Medical University of Chicago a low-grade school of the sun-down variety The university is now out of existence and for some time before it went out of existence was not recognized either by the board of health of the state in which it operated or by the boards of the majority of the other states in the Union The report of the Carnegie Foundation on medical education had this to say about the laboratory facilities of Rogers school

> "The school occupies a badly lighted building containing nothing that can be dignified by the name of equipment There has been no dissecting thus far (October to the middle of April 1909) anatomy being didactically taught Persistent inquiry for the dissecting-room was however finally rewarded by the sight of a dirty unused and almost inaccessible room containing a putrid corpse several of the members of which had been hacked off There is a large room called the chemical laboratory its equipment locked up the tables spotless About ten oil-immersion microscopes are claimed—also locked up in the storeroom There is not even a pretense of anything else Classes in session were all taking dictation

Dr Rogers is or was if he is not still ' Permanent Secretary of the National Association of Panpathic Physicians — whatever that is In fact one of Dr Rogers specialties seems to be the founding of quasi medical organizations—organizations apparently which may prove useful in the promulgation of such projects as he may at the time be interested in A few years ago Rogers was exploiting a 'cancer serum and *presto* the American Cancer Research Society ' came into being L D Rogers president Soon thereafter certain members of the profession were circularized urging them to purchase shares in the Cancer Research Laboratory and Hospital, par value $10 Apparently the profession did not invest

A few years ago also L D Rogers name appeared on the Faculty list of the American Post Graduate School ' a concern which granted—on the mail order plan—a long line of sonorous degrees and an equally complete line of ornate diplomas

THE JAPANESE CONSUMPTION CURE

Then in 1915 there appeared in the classified columns of certain newspapers the following advertisement

> TUBERCULOSIS—New Japanese treatment to prove merits and give discovery quick publicity will send 10 days treatment free DR ROGERS 546 Surf St Chicago

So far as we have been able to learn Rogers for some unexplained reason did not call into existence out of the vasty deep a Japanese-American Tuberculosis Research Society This consumption cure apparently died of inanition

Then came the Auto-Hemic Serum ' with its inevitable sequel the National Society of Auto-Hemic Practitioners Another adjunct to the serum exploitation is the *North American Journal of Homeopathy* the official organ of the ' Auto-Hemic Practitioners and of the American Medical Union and possibly of some other societies —but not representative of homeopathy !

WHAT IS AUTO HEMIC THERAPY ?

What is this new therapy? According to a very lurid poster it is described as The Missing Link in Medicine — possibly referring to the ease with which one may make monkeys of certain physicians More specifically although still vaguely we learn

> It consists in giving the patient a solution made by attenuating hemolizing incubating and potentizing a few drops of his or her own blood and administering it according to a refined technic developed by the author

Elsewhere it is said to consist

> in taking five drops (or some multiple of five) of blood from a vein and putting it into nineteen times as much sterilized distilled water and incubating it at fever temperature for twenty four hours and then making further dilutions according to the needs of the case as can be determined only by a physician skilled in its use

Neither of these statements of course describes the 'refined technic of those skilled in its use but those who are interested can by sending Dr L D Rogers One Hundred Dollars cash in-advance get a mail-order course in this new marvel

But if it is rather expensive to learn just how to use Auto-Hemic Serum ' it does not cost so much to learn what the serum will do Rogers has written a book on the subject Auto-Hemic Therapy which is used as a premium for subscriptions to the *North American Journal of Homeopathy* price $5 00 per year payable in advance In the book Dr Rogers modestly assures his readers that he considers his discovery more important than that of Alex Carrel winner of a Nobel Prize

A CURE FOR LAZINESS

One of the chief virtues claimed for this serum is that of developing in the patient who takes it an unbounded energy that apparently makes him want to work himself to death In some sensational articles that have appeared in Sunday editions of newspapers on Rogers serum the stuff has been described as Lazy Serum One of the first cases described in the Rogers book is that of a young waiter a good for nothing lazy fellow who would not work and would not pay for medical services and who was turned over to Dr Rogers free clinic He was given the serum on Thursday and was told to report Saturday He did not return until Monday his excuse being that he worked all day Saturday until midnight and all day Sunday and felt as if he could work all day and all night without rest The case report ends

> finally remarking I feel like a bird He flew out of the classroom and we never saw him again

HOUSEWIVES TAKE NOTICE

The next case described is that of a servant girl who had not worked for a year within a week after taking the Auto-Hemic Serum she voluntarily beat carpets till the blistered her hands" Then there was the rooming house keeper who had spent more than half of each day in bed After an 'Auto-Hemic' injection she "discharged her maid and janitor and did all the work of her twelve room house herself, beating rugs, firing furnace and carrying out ashes besides doing some of the laundry" 'Case No 7176" is interesting a man generally considered the laziest person in his community and with a habit of 'drinking thirty whiskies a day," took Auto Hemic Serum" He stopped drinking, shaved himself and changed from 'a bum' to that of a sober clean, wholesome bright and honest workman" Then there was the case of the lady physician" who took the serum one evening and the next evening reported that she had had the 'giggles all day', also she became 'more magnetic" More remarkable still was the case of the young woman clerk in a retail store who after taking the serum astonished her employer by volunteering to work over time" In the chapter dealing with Ills Peculiar to Women" Dr Rogers details the moving story of a *man* to whom the 'serum' was given and who reported that about the third twenty-four hours after taking it his bowels moved forty times'—nevertheless he felt no exhaustion '

In all phases of human activity the serum seems to work wonders 'The cases are numerous in which the frigidity of both sexes have [*sic*] melted after Auto-Hemic treatment" A young married woman with a morbid dislike for her husband took the serum and within a week became normal" The discoverer suggests that in some cases there is no doubt that this serum would prevent divorce A forty-year old woman who could not endure to wear any waists but white or black was able it seems after taking the serum to tolerate a veritable Jacob s coat

Is, then, Auto-Hemic Serum good for everything? Let Dr Rogers answer

> Briefly stated without any great exaggeration this new modified serum treatment is good for anything that is the matter with you provided the cause is not organic mechanical or bacterial

One infers that in the inorganic mental spiritual and nonbacterial spheres the stuff is supreme But it has its limitations For instance, Dr Rogers states that he once had a very troublesome cough which lasted several weeks, but did not yield to this serum Reaching the conclusion that some other treatment was necessary he had the bones of his neck adjusted' and got immediate relief '

AS A COMPLEXION BEAUTIFIER

The serum cannot be made up by the barrel and sold at wholesale or retail

> If it could be bottled and stored and sold at retail like a patent medicine the demand for it as a complexion beautifier alone would net the proprietor million More than one person a few days after taking the treatment has been wrongly accused of painting

Should any of THE JOURNAL readers decide to take the $100 mail-order course in Auto-Hemic Therapy' he should realize that even after he has done so there are certain restrictions in the practice of this therapy ' In no case must he administer a course of Auto-Hemic Treatment' for less than $100, paid in advance ' The only exceptions to this rule are cases of absolute charity, expectant mothers and to persons positively unable to pay that amount Furthermore, Dr Rogers says that for the reputation of his method as well as for the good of all concerned I insist that the entire fee be paid in advance and that the course extend over a period of one year whether the patient needs few or many treatments '

DOLLARS AND CENTS

For those who do not wish to take the mail-order course Rogers offers to prepare individual specimens of the serum from blood that is sent to him by the physician The cost of this serum' is $5 00 'in advance ' of course

Still emphasizing the commercial side 'Auto-Hemic Therapy" is especially recommended to the general practitioner growing old and the physician who is ambitious to build up a creditable and lucrative office practice" because the health of four people out of five (old or young, whether they consider themselves sick or well) taken at random can be improved by this method of treatment"! An Ohio physician was said to have doubled his $3 000 practice in two years after starting the 'Auto-Hemic' method A Virginia physician is alleged to have "increased his income $10,000 a year" A Pennsylvania physician, urged by Rogers to send $150 00 for the mail-order course, was assured that this 'is merely a nominal amount, as most of the doctors have been able to get this amount back the first month"

But enough The story, were it not for the tragic element that forms the background would be amusing But it *is* tragic!

Correspondence

"UNIVERSAL MILITARY TRAINING"

To the Editor —Your commendation of the provisions for compulsory universal military training in the Wadsworth army bill in your editorial published in THE JOURNAL, January 31 I understand to be an endorsement of militarism It does not seem possible that any one can avoid this conclusion who is familiar with the history and growth of this institution

Before the war in Europe militarism was a subject much discussed, but here in the United States it received little attention because it did not concern us at that time and very few believed that it would ever be seriously proposed as the policy of our country Now it has become one of the most important questions of our national life In a few days the question may be decided by Congress and your editorial *may have important influence in determining the decision* I suppose we may reasonably assume that this was the purpose of the editorial

I do not now propose to present objections to militarism, but I would like to call your attention to the fact that the advisability of introducing this institution into our national system is by no means admitted by all On the contrary, this proposal is debated by the most serious students as an exceedingly important problem I question your right to commit the Association to its endorsement [The House of Delegates of the American Medical Association is the only body which can commit the Association to any policy, THE JOURNAL does not presume pretend or intend to arrogate this right to itself —ED]

You may claim that military training has some other purpose than the building up of a military system You may contend that the four months' period of training which you say is quite too short, is desirable for other reasons than because it furnishes the basis of a very large and trained American army If you mean that military training is desirable for some other reason than this and for reasons that are so good that they might overbalance the dangers of militarism, it would seem proper that you indicate in some way why you commend it

If your editorial were in a lay publication that made no claims to authority on questions of health and physical training one might assume that you had in mind the value of military training for physical development Your knowledge of the unfavorable reception heretofore accorded by Congress to public health measures must raise a doubt in your mind concerning the conversion of this body implied in its willingness to appropriate from 600 to 1 200 millions of dollars for a health measure Moreover it must seem strange that the military forces of the country have suddenly become so intensely interested in a health measure

This argument for military training is so generally discredited by experts in physical education and its honesty is so thoroughly impeached by the fact that the proposed compulsory training exempts those who most need it, that is, those least well developed physically as well as all girls, that it is not possible to assume that this senile and badly discredited reason is what you had in mind

I hope you will inform your readers why you as representative of the American medical profession endorse this measure that some undoubtedly regard as vitally wrong

C S BACON, M D Chicago

"EFFICIENT HOSPITALS" SUCCESS OF PRIVATE ROOM PLAN AT TEMPLE, TEXAS

To the Editor—I have read with interest the article by Bacon on 'The Efficient Hospital (THE JOURNAL Jan 10 1920 p 123) It may be of some interest to your readers to know that the plan suggested is not only feasible but has been in operation for many years at the King's Daughters Hospital, Temple Texas Some years ago the staff of this hospital realized that the patients, especially the operative cases, would be better in private rooms than in the wards Something like twelve years ago we abandoned the ward system entirely and since then each patient charity or otherwise has had a private room and it is seldom that the nurse in attendance knows whether the patient is a pay or a charity patient So far as I know this is the only hospital that gives charity patients private rooms The rates of our rooms now run from $2 to $6 a day Last year there were comparatively few calls for charity outright but all of these were met with service in such rooms as were available at the time It goes without saying that we do not put the charity patients in the most expensive rooms

We have had to work practically without donation except what little the physicians themselves have contributed and no endowment We now have a hospital of seventy-five beds Of course there is some debt for buildings Most of the buildings are of modern fire proof construction I merely mention this to show that the plan can be worked without wards, and charity taken care of if the administration is thoroughly efficient A rather stringent rule that has been lived up to with practically no friction is that the hospital bill shall be paid before the attending physician or surgeon can receive any pay

Instead of having four wings as suggested by Bacon we have an L-shaped building with arms of about equal length, with the elevator and dumb-waiter at the angle It is so arranged that no patient is as much as 100 feet from the distributing center We have long since adopted the plan as suggested by Bacon of central cooking and central linen distribution, and find it exceedingly satisfactory However, instead of having service rooms on the ground floors we have them on the top floor, which we have found to be a better arrangement as there is practically no odor of food throughout the building, and there is less possibility of the help's carrying off food—no small item in the southern country As in Bacon's plan, we have examining operating and roentgen-ray rooms, the pathologic laboratory and the like on the top floor, which is conducive to efficient hospital service

After our experience with private rooms we would consider wards again only with reluctance and would by far prefer to furnish the charity patients with one of our less expensive rooms rather than return to a ward plan, which is unsatisfactory both to the patient and to his attending physician

GEORGE S MCREYNOLDS, MD Temple Texas

NOTE ON RESPIRATORY SOUNDS HEARD ON THE HEAD

To the Editor—These phenomena are recorded largely because I do not find any mention of them in the literature At present I know of no clinical significance which they may have

When the bell stethoscope is placed over certain points of the face and head breathing sounds are distinctly heard These places are first the antrums second the temporal portion of the scalp third the vertex along the median line, fourth just mediad to each mastoid and frequently over the mastoids themselves, fifth, at the junction of the occiput with the neck

In many cases the breathing sounds may be heard all over the head in other cases only in the places mentioned There is a marked difference in the loudness of the sound heard, and as might be expected they are best heard on the heads of persons who have but little hair

The quality of the sound is like that heard over the larynx and probably represents a transmission along the skull of the respiratory noises in nose, pharynx and larynx that is the upper air passages I have stated that a bell stethoscope is best for hearing these sounds but a Bowles may be used The subject should be instructed to breathe deeply and regularly

The phenomena are physiologic That they may be of some significance in fracture of the skull and in diseases of the sinuses and the mastoid seems possible *a priori* I have not had the opportunity to study such cases but take this opportunity of calling the attention of specialists in this field to these phenomena

ABRAHAM MYERSON MD, Boston

"THYROIDECTOMY IN PREGNANCY"

To the Editor—In your editorial January 13 page 329 occurs the question May premature delivery be associated with the milder grades of hyperthyroidism? I believe that it is pretty generally conceded by students of the subject that hyperthyroidism produces premature delivery I myself have observed a number of cases that seem to substantiate this opinion The report of one of these cases I am quite sure was published but I cannot just now cite the reference It was a case of premature delivery from separation of the placenta which separation I concluded after careful survey of the case was caused by a hyperactive thyroid Crotti in his book on Thyroid and Thymus page 368 speaking of exophthalmic goiter in pregnancy says It predisposes the patient to uterine hemorrhages and may result in the death of the fetus

MILES F PORTER MD Fort Wayne, Ind

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted on request

SPIDER VENOM

To the Editor—Will you let me know the name of the poison that causes the symptoms following the bite of a spider known as the black widow or scientifically *Latrodectus mactans* I wish to know how and why this acts so violently on human being I have had three cases in the past few years I have letters from Dr Howard of the U S Department of Entomology some from the Florida State Bureau and one from Dr Eugene Courson Savannah Ga who wrote about the widow years ago Dr Courson has no extra copies of the paper The two former told me about the distribution and gave me a list of references None of them seemed to answer my question of what the poison is and how and why it acts as it does Hence I am writing to you as I was sure you would be able to help me out

GEORGE D KENNEDY MD Mandarin Fla

ANSWER—Little is positively known about the specific nature of the venom of spiders although there has been much speculation The venom is an oily translucent lemon yellow liquid having an acid reaction and a hot bitter taste It gives the xanthroproteic reaction and is rendered harmless by heating to 90 C In many ways the symptoms of spider bites resemble those produced by snake bites so that it is probable that the spider venoms belong to that class of poisons It is known that snake venoms are very complex mixtures and that they differ greatly in the different species of reptiles Among the ingredients that have been found are fibrin ferment and antiferment proteolytic enzymes cytotoxins for red corpuscles and neurotoxins as well as leukocytes and endothelial cells The marked effects on the nervous system produced by the bite of the black spiders *Latrodectus mactans* and other species of *Latrodectus* indicate that the venom of these animals resembles that of the cobra more nearly than the venoms of American snakes Kobert believes that all parts of the spider contain a toxalbumin which in some species is mixed with the secretion of the poison gland He considers that the secretion of the poison gland produces only local symptoms while the general symptoms are due to the presence of this toxalbumin It is because of the toxalbumin that the bite of *Latrodectus* is so severe as occasionally to cause death in human beings It contains a hemolysin called arachnolysin which acts on the red cells of man rabbit, mouse and goose, but not on the horse, dog sheep and guinea-pig Some authors question whether the nervous symptoms following spider bites may not be due to changes in the blood rather than to a direct toxic effect on the nervous tissues

The appended bibliography may be of interest

Houssay B A and Negrete J Nuevos estudios experimentales sobre la accion fisiologica de las ponzonas de las aranas *Rc d Inst Bact* Buenos Aires **2** 189 (June) 1919
Kobert Beitrage zur Kenntniss der Giftspinnen 1901
Sachs Zur Kenntniss des Kreuz Spinnengiftes Hoffmann s *Beitrage* **2** 125
Wilson Records of the Egyptian Government School of Medicine 1904 p 7
Castellani and Chalmers Manual of Tropical Medicine 1910, p 136
Browning Original Investigations of Spider Bites in Southern California *South California Pract* **16** 291 1901
David on *South California Pract* **12** 169 1897
Riddick A Case of Poisoning from the Bite of a Black Spider *North Carolina M J* **40** 247 1897
Hodgdon A L Bite of a Poisonous Spider Latrodectus Mactans The Journal May 4 1907 p 1506

HYPERHIDROSIS

To the Editor —Some time ago you printed several prescriptions for the treatment of hyperhidrosis Can you find these for me and tell me in what issue of The Journal they were published?

William Hill Bean M D New Haven, Conn

Answer —The following prescriptions appeared in the Therapeutics Department of The Journal Jan 12 1918

		Gm or C c
℞	Chromium *trioxid*	2 5
	Water	50

Use as a paint once a week

This treatment is said to be exceedingly active and hence must be used with care especially in the axillae Less active but more pleasant than the foregoing is

		Gm or C c
℞	Tannic acid	5
	Alcohol	100
	Water	up to 200

Use as a wash twice a day

The drying powders suggested were

		Gm or C c
℞	Boric acid	10
	Purified talc	100

		Gm or C c
℞	Salicylic acid	5
	Bismuth subnitrate	40
	Zinc stearate	20

		Gm or C c
℞	Salicylic acid	2
	Bismuth subnitrate	20
	Starch	20

Other remedies suggested are 25 per cent solution of aluminum chlorid in distilled water 2 per cent solution of the official liquor formaldehydi in water (a 5 per cent solution may be used for the feet), pure glycerin, potassium permanganate solutions of about 5 parts to 1 000 In very severe cases the roentgen ray has been used with some good effect however the method is expensive and not entirely safe in unskilled hands

DRY WARM CLIMATE TO RETARD DEAFNESS

To the Editor —I am unfortunate enough to suffer from partial deafness due to catarrh of the nares eustachian tube and middle ear I realize that my hearing is becoming worse and that sooner or later I shall be incapacitated from doing medical work I have treated with some of the best aurists in the East have had my tonsils removed septum straightened tubes dilated and ears inflated but without any permanent success One or two aurists have replied in answer to my query concerning the effect of climate that my removal to some dry climate might aid my ears I have endeavored to learn from the U S Public Health Service and the U S Weather Bureau of some of the localities in the United States where the climate may be suitable to my need but without success It occurs to me that you may be able to give me the information I desire or may be able to refer me to some one who can Or it might be that the publication of this letter will put me in touch with physicians who will give me the desired information Whatever the course pursued to obtain the facts I want I shall be glad to meet any expenses that may arise I shall appreciate greatly any reply you may make or any thing you may do in this matter

Rolla Camden M D Parkersburg W Va

Answer —This communication is published for the purpose of bringing our correspondent's request to the attention of some reader who may be able to give him the information he seeks

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska Juneau Mar 2 Sec Dr L O Sloan Juneau

California Los Angeles Feb 16 19 Sec Dr Chas B Pinkham 906 Forum Bldg Sacramento

Connecticut New Haven and Hartford March 9 10 Sec Reg Bd Dr Robert L Rowley Hartford Sec Homeo Bd Dr Edwin C M Hall 82 Grand Ave New Haven Sec Eclectic Bd Dr James Edwin Hair 730 State St Bridgeport

Florida Jacksonville March 16 Sec Homeo Bd Dr Geo A Davis East Port

Illinois Chicago Mar 1 3 Director Mr Francis W Shepardson Springfield

Iowa Iowa City March 29 31 Sec Dr Guilford H Sumner Capitol Building Des Moines

Maine Portland March 9 10 Sec Dr Frank W Searle 140 Pine St Portland

Massachusetts Boston March 9 11 Sec Dr Walter P Bowers Room 144 State House Boston

National Board of Medical Examiners St Louis and Chicago Feb 18 25 Sec, Dr J S Rodman 1310 Medical Arts Bldg, Philadelphia Pa

New Hampshire Concord March 11 12 Sec Dr Charles Duncan Concord

Rhode Island Providence April 1 2 Sec Dr Byron U Richards State House Providence

Massachusetts September Examination

Dr Walter P Bowers secretary of the Massachusetts Board of Registration in Medicine reports the oral, written and practical examination held at Boston Sept 9-11, 1919 The examination covered 13 subjects and included 70 questions An average of 75 per cent was required to pass Of the 45 candidates examined 35, including 4 osteopaths passed, and 10 including 3 osteopaths failed One candidate a graduate of Harvard University in 1915 passed a special examination held Sept 24 1919 The following colleges were represented

College		Year Grad	Per Cent
	PASSED		
Chicago College of Medicine and Surgery		(1916)	78 8
Rush Medical College		(1898)	75
Bowdoin Medical School		(1917)	79 3
Medical School of Maine		(1899)	75
Baltimore Medical College	(1895) 75	(1912)	75
University of Maryland	(1916) 78 9	(1917)	79 8
Boston University		(1906)	80 5
College of Physicians and Surgeons Boston		(1919)	76 7
Harvard University (1913) 80 6 (1914) 81 2 (1916) 82 7 87 5		(1918)	83
Middlesex College of Medicine and Surgery		(1919)	77 1 78 2
Tufts College Medical School	(1905) 76	(1917)	75
University of Michigan Homeopathic Med School		(1911)	81
Washington University		(1919)	85
Dartmouth Medical College	(1910) 80 7	(1914)	81 7
Cincinnati College of Medicine and Surgery		(1901)	78 4
Ohio State University College of Homeo Med		(1915)	76 9
Hahnemann Medical College and Hospital of Phila		(1919)	82 2
Jefferson Medical College	(1908) 81 2	(1918)	80 1
Woman s Medical College of Pennsylvania		(1912)	77
University of Vermont		(1915)	75 7
McGill University		(1916)	85 5
	FAILED		
Chicago College of Medicine and Surgery		(1914)	68 5
Chicago Hospital College of Medicine		(1917)	71 6
College of Physicians and Surgeons Boston		(1916)	68 2
Middlesex College of Medicine and Surgery	(1918) 65 1	(1919)	68 2 71 2
Tufts College Medical School		(1919)	73 3

Connecticut November Examination

Dr Edwin C M Hall secretary of the Connecticut Homeopathic Medical Examining Board reports the written examination held at New Haven Nov 11 1919 The examination covered 7 subjects and included 70 questions An average of 75 per cent was required to pass One candidate was examined and passed Two candidates were licensed by reciprocity The following colleges were represented

College	PASSED	Year Grad	Per Cent
New York Homeopathic Med Coll and Flower Hosp		(1919)	83

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
New York Homeopathic Med Coll and Flower Hosp		(1915)	New York
New York Med College and Hospital for Women		(1903)	New York

Social Medicine and Medical Economics

HOME AND PUBLIC HEALTH NURSES AND THEIR TRAINING

JOHN DILL ROBERTSON, M.D.
Commissioner of Health
CHICAGO

As this paper goes to press we are in the midst of the 1920 outbreak of influenza.

Several days before the outbreak assumed epidemic proportions the available supply of regular nurses was exhausted. For a period of days the calls for nurses poured in at the health department at the rate of fifty an hour.

At the offices of the School for Home and Public Health Nursing two girls were kept busy at the telephone all the time taking calls for nurses trained in our eight-weeks course. Four hundred of our graduates took cases in private homes. Six hundred others who were restrained by household duties from nursing full time spent as many hours each day as they could spare in attending to the needs of the families in their neighborhood. All others, so far as I can ascertain, took care of their own ill if they had any. Apparently there were no demands made on the regular nursing agencies by the families of any of our graduates.

THE DIFFICULTY OF SECURING NURSES

Every physician knows the difficulty of securing competent nursing care for the family in moderate or in submoderate circumstances. The difficulty has been steadily growing greater instead of less. There are various causes responsible for this condition. Foremost among them is the extension of the preliminary requirements for matriculation in a hospital for training. The nurse that is required to graduate from high school and spend three years in hospital training before she is eligible for registration feels that she cannot afford to work for less than $35 a week. And she is quite right.

There is no question about the value of the registered nurse; her services are invaluable for those who can afford them. The trouble is that only those in very comfortable financial circumstances can afford them. When the family weekly income must cover fixed expenses such as rent, fuel, food, clothing, insurance and so on, it is obvious that there is not sufficient left to cover $35 a week and board for a nurse.

Physicians realize that disease is all too frequently the penalty of carelessness or of ignorance. Often it is the result of ignorance. There is *no* reason, however, why the victim should be too heavily penalized. His suffering is usually sufficient punishment for him. It is our duty to teach him as much as we can, but when a man is ill we should help first and teach afterward.

THE SCHOOL FOR HOME AND PUBLIC HEALTH NURSING

In August, 1919, we established in Chicago the School for Home and Public Health Nursing, both *to teach* and *to help*. The length of the course is two months. The pupils spend in class two hours a day for three days a week. We graduated 790 in the first class and 1,063 in the second class. Our third term opened December 6, right in the midst of the fuel shortage incident to the coal strike. We found it necessary, therefore, to limit the size of the class to 1,000, and now have that number enrolled. We hope, however, to be able to make some arrangements that will enable us to admit a larger class in February.

At no time since the graduation of the first class have we been able to fill the calls for the services of these women, in spite of the fact that we have not circularized the physicians of the city or in any way attempted to advertise their work. The calls for them have come in the main from the patients themselves rather than from the attending physicians, but no dissatisfaction with their work has been expressed to me. Quite the reverse. As to the work they have been doing in their own homes I have of course no data.

In the beginning our course aroused bitter opposition in some quarters. There is still some opposition, but this has never been sufficient to affect the work. Those who have spent three years in hospital training naturally feel that a nurse cannot be trained in two months—every one knows that a West Point graduate felt just the same way about a Plattsburg man. We do not of course pretend that the nurses we are training are the equal of registered nurses—that would be foolish indeed. What we claim is that they can satisfactorily fill the need for nurses in the general run of cases in which all that is needed is some one to follow the physician's directions intelligently. In a critical surgical case, I should prefer a surgically trained nurse; surgical cases, however, make up a very small percentage of the cases that require nursing. For nursing tuberculosis, diabetes and cancer cases, nervous invalids, elderly persons, babies, children with measles, chickenpox and in fact any children's diseases, for cases of tonsillitis, septic sore throat, colds, etc.—in short, for the great bulk of nursing, these women are quite as capable as the registered nurse. Often they are more desirable because they are willing to do housekeeping as well as nursing, and in its final analysis nursing is nothing more nor less than housekeeping for the sick.

THE CURRICULUM

Before we established the school I called a meeting of the staff of the department of health. We discussed the curriculum of the standard nursing course with a view to determining what in the course was essential. As a result of this conference, we drew up a course of study for our school. Then we selected from our staff of physicians those who seemed best fitted to teach the subjects we had included in the course, and from our corps of city nurses we selected those who could best demonstrate the nursing technic we thought necessary.

The course included lectures on:

The home nurse, her duties, qualifications and dress.
The sick room.
Daily routine care of the patient.
Giving medicine and home medicine equipment.
Temperature, pulse and respiration.
Uses of water as a therapeutic agent.
Symptoms of sickness.
First aid to the sick.
First aid to the injured.
Poisons and their antidotes.
The human body.
Food.
Food for the sick.
Sanitation of the home.
Plumbing and the housewife.
Contagious diseases.
Causes, symptoms and prevention of contagious diseases.
Principles of contagious disease nursing.
Nursing care of influenza.
Nursing care of patients suffering from tuberculosis.
Obstetric nursing.
Care of the baby.
Care of the older child.

Our demonstrations included bed making, bathing, sponging, taking temperature, pulse and respiration, bandaging, first aid, etc.

We placed most emphasis on the taking of temperature, pulse and respiration. We held temperature, pulse and respiration clinics. Every pupil was required to provide herself with a clinical thermometer. We taught them to take temperature by mouth, by rectum and by axilla, and we didn't let one go until she could take temperature and read her thermometer correctly Many of them learned in a short time, others were slower The hardest two weeks of the course, so far as the instructors were concerned, were the two weeks when we were drilling on this subject

The lectures on contagious disease nursing were given by the nurse in charge of the work at our contagious disease hospital The lectures on obstetric nursing were given by a woman who had spent twenty years in that sort of nursing The lectures on the nursing of the tuberculous were given by experts in this line from the Municipal Tuberculosis Sanitarium, and augmented by lectures by the medical director of that institution And so on with the other lectures—each was given by the best talent that we could command No one who lectured did so from theoretical knowledge alone

Throughout the course we hammered on two main propositions—absolute adherence to the physician's orders, and cleanliness In order to show them what a physician means by cleanliness I arranged that every woman who attended the lectures should be given a chance to see at least one surgical operation from a hospital amphitheater They were visibly impressed by the precautions taken by the surgeon and his assistants to secure absolutely aseptic conditions Clean hands no longer mean to those women what clean hands meant to them before they saw the surgeon and his assistants scrub up

TABLE 1—DATA CONCERNING THE FIRST TWO CLASSES

Ages	No
Under 20	81
From 20 to 25	311
From 25 to 30	354
From 30 to 35	320
From 35 to 40	328
From 40 to 45	282
From 45 to 50	245
Over 50	147
Nativity and marital status	
American born	1 728
Foreign born	425
Colored	192
Single	802
Married	997
Widowed	354
Education	
Grammar school	1 252
High school	520
Business college	245
College	136

It is no part of the duty of a nurse either to diagnose or to prescribe In our lecture on the "Symptoms of Disease" we endeavored to teach them what symptoms indicated the presence of a condition that should be brought to a physician's attention, we made no attempt to teach them to read the meaning of the symptoms We taught them that when they found a high temperature associated with an abnormal pulse they were to summon a physician at once We taught them that any abnormal condition of the excretions of a person, whether a patient or one apparently in good health should be brought to the attention of a physician We tried to make clear to them that it was wise to have a physician overhaul the physical mechanism as soon as there was even an apparently trifling indication of trouble rather than to wait to see whether something worse would develop Our idea in this was to have these women become the guardians of the health of their families first and to act as their nurses secondly

In our lecture on "Giving Medicine" we emphasized the importance of absolute adherence to the physician's orders We made not the least attempt to teach the women to prescribe, on the contrary, we tried to make clear to them the danger of attempting to prescribe even castor oil of their own accord There is no other place in the universe where a little knowledge is so truly a dangerous thing as in medicine These women know that they know nothing about materia medica—at least we told them so often enough

Our aim throughout has been to train them enough to enable them to follow the physician's orders explicitly, but not enough to make them think they can assume any part of the duties of the physician

In order that there might be no mistake as to what they had been taught, we collected the lectures from those who gave them and incorporated them in an official note book We gave a copy of this note book to each nurse we graduated

TABLE 2—SALARIES DESIRED BY EIGHT HUNDRED AND SEVENTY TWO GRADUATES WHO ARE WILLING TO WORK OUTSIDE THE FAMILY

	No
Willing to work for from $10 to $15	7
Willing to work for from $15 to $18	82
Willing to work for from $18 to $20	165
Willing to work for from $20 to $25	618

USE MADE OF THE TRAINING

Many of the women we have trained have no intention of doing any nursing outside of their own families The figures given in Table 2 will be of interest Whether they nurse their own families or their neighbor's families, however, makes little difference in the final result If Mrs Brown can nurse her own sick the nurse who would otherwise be on duty in her home is released for work elsewhere The homes in which there are neither babies, children nor elderly persons are few and far between Where there are none of these to tie the family income, the family can probably afford to pay for the services of a registered nurse in case of illness in the household Where there are babies, children or elderly persons the nurse is always likely to have enough to do to keep her busy at home

We started the school when we did in order to be prepared for a possible recurrence of the influenza epidemic that swept our country during the winter of 1918-1919 A great many of the women that we have trained can be depended on to come to our aid in time of need, such as a recurrence of the epidemic would cause When I say that they are unwilling to do nursing outside of their own homes I mean ordinarily, not during an epidemic

Many of our graduates want more knowledge, as witness the data given in Table 3

TABLE 3—GRADUATES WHO DESIRE FURTHER INSTRUCTION

	No
Registered for extension courses	1 222
Willing to enter hospital	
For three months	225
For one year	50
For two years	8
For three years	35

CONCLUSION

The prophet's job is a thankless one, consequently I shall not attempt to prophesy the final outcome of the movement that we have undertaken I shall however state that I expect to have trained 10 000 women in our school by the end of the first year of its existence. Ten thousand nurses sounds like a drop in the bucket in a city of two and a half million, but 10 000 such nurses would have saved many lives if we had had them during our epidemic in 1918 Moreover, it is a start and every one knows that a task well started is half finished Eventually I should like to have every housewife in Chicago in our class room, not so much to train her to nurse the sick as to train her to keep her family well In my mind there is no doubt that preventive medicine will supplant our present system of remedial medicine in the near future When every man pays his physician to keep him well instead of to get him well there will be little need of health commissioners I am trying to do my part toward bringing about such a state of things

Let me repeat it is no part of our plan to run in opposition *to the registered nurse There will always be a field for her* It is our plan to train a body of housekeepers for the sick practical nurses attendants—whatever you want to call them—who will competently carry out the physician's directions in that great bulk of cases in which it is out of the question to pay for the services of a registered nurse We are training soldiers to serve under the leadership of the physician in the fight against disease, we are not training subofficers

I should like to see a similar movement undertaken by every health department in our land and can promise the help of my department to the extent of our resources to any one who desires it

Book Notices

Venereal Diseases A Practical Handbook for Students By C H Browning M D D P H Director of Bland Sutton Institute of Pathology of Middlesex Hospital and David Watson M B C M Lecturer on Venereal Diseases Glasgow University with an Introduction by Sir John Bland Sutton F R C S Cloth Price $6 50 Pp 336 with 76 illustrations New York Oxford University Press 1919

This manual gives an outline of our knowledge of syphilis in 140 pages, and then of gonorrhea in almost the same amount of space The presentation is up to date scientific well written and orthodox As one of the authors is a laboratory man who has done considerable work on syphilis the book goes with more than ordinary detail into the laboratory side of these diseases This is altogether to be desired The consideration of the diseases furthermore is not confined to either genital or skin manifestations the systemic manifestations of both syphilis and gonorrhea are given due consideration Although the book is called a handbook of venereal diseases chancroid curiously enough is given no formal consideration being taken up incidentally in connection with the diagnosis of syphilis It is entitled to more consideration in a book on venereal diseases The make-up of the book is good Some criticism is to be made of the illustrations The clinical illustrations in black and white are not as good as we are used to and many of the colored clinical illustrations which are made from color photographs, are poor A few are quite lifelike The book has the great merit of being concise and not burdened with unnecessary details It can be highly recommended as a guide to a practical knowledge of syphilis and gonorrhea

Plastic Surgery Its Principles and Practice By John Staige Davis Ph B M D F A C S Instructor in Clinical Surgery Johns Hopkins University Cloth Price $10 net Pp 770 with 864 illustrations Philadelphia P Blakiston's Son & Co 1919

It is the author's opinion that the field of plastic surgery extends from the top of the head to the sole of the foot and no properly trained plastic surgeon would be willing to limit *his work to the face alone* as a result he has assembled between the covers of one book a summary of restorative and reconstructive surgery dealing primarily with defects of the surfaces of the body including harelip and cleft palate hypospadias and exstrophy of the bladder Wound infection burns deforming cicatrices chronic ulcers and the general principles of tissue transplantation with especial reference to the transplantation of skin are among the subjects receiving thorough consideration There is little to criticize unfavorably and much to commend The style is clear and convincing there is no verbosity and yet when the author has discussed a subject there are few places where the admirable brevity of the text permits of ambiguity or misinterpretation The illustrations are numerous well executed and labeled with a thoroughness rarely seen in textbooks but which should be much appreciated by those who may wish to use this book as a guide An abundant and possibly top-heavy bibliography appears at the end of each chapter The author has what might be called the definitive adjective habit Like many other medical writers he speaks of an appendicitis, a pneumonia a necrosis apparently being unable to overcome the habit of interjecting the unnecessary word *From a scientific standpoint the book is excellent* and should find a place in every medical library

Medical Science Abstracts and Reviews Monthly Published for the Medical Research Committee by the Oxford University Press Price $8 50 per annum

This publication is an outgrowth of one published during the war under the auspices of the Medical Research Committee to keep British military physicians informed concerning advances in medical science as revealed in periodical literature The publication includes collective abstracts on various subjects as well as abstracts of single articles which have seemed to the editors to be of special importance The editors are medicine J D Rolleston M D surgery W G Spencer M S F R C S pathology and bacteriology W Bulloch M D F R S neurology F M R Walshe M D and radiology W S Lazarus-Barlow M D F R C P and Sidney Russ, D Sc In addition to covering the field as did the German *Centralblatts the editors of the various* departments do not seem to be bound to local or national schools of medicine, but have consulted freely the periodical literature of all nations

Physical Diagnosis By Richard C Cabot M D Professor of Medicine in Harvard University Seventh edition Cloth Price $4 Pp 27 with 269 illustrations New York William Wood & Co 1919

In his preface Dr Cabot states that new experiences gained during the war have modified his ideas on the cardiac signs of nervousness on hilum tuberculosis on goiter heart and on empyema New matter has been supplied on these subjects He also states that he has developed great skepticism as to the existence of rheumatic mitral regurgitation (without stenosis) as to the diagnosis of chronic appendicitis and of tricuspid stenosis He has also presented some new views on the subject of arterial sclerosis and blood pressure Beyond these points the book appears much as usual It is well printed with numerous illustrations and is a reliable textbook

Medicolegal

Liability for Negligent Advice to Parents of Scarlet Fever Patient

(Skillings v Allen (Minn) 17 N W R 663)

The Supreme Court of Minnesota in affirming an order overruling a demurrer to the complaint in this case holds that a physician may be liable to a parent of a patient for damages sustained by such parent from negligent advice given by the physician a when the patient had scarlet fever In other words the court holds that a complaint states a cause of action when it is alleged therein that the defendant a physician was employed by the plaintiff to attend his minor daughter professionally while she was sick that knowing that the child's disease was scarlet fever he negligently advised the plaintiff's wife who inquired in his behalf as well as in her own that it was safe to visit the child then in a hospital and under the defendant's care that he also advised her that it was safe to remove the child from the hospital to the plaintiff's home and that there was no danger that the disease would be communicated although i was then at a stage when great dan r of in a existed that the plaintiff and his wife a infec tious nature of the disease t advice and accordingly visi and removed her to their home, and the plaintiff thereby contracted scarlet fever, to his damage.

The court says that the case was a novel one, wherein it had been certified that the question raised was important and doubtful, and counsel for the defendant asserted that no case like it had before been presented to any court, so far as they had been able to ascertain. Counsel contended that a cause of action was not stated because there were no contractual relations between the plaintiff and the defendant. But the statement in the complaint, that the child was under the defendant's care 'pursuant to solicitation and employment by the plaintiff and his wife" amounted, the court thinks, to an allegation that there were such relations. True, the child was the defendant's patient, but can it be said that therefore he owed no contractual duty to her parents by whom he was employed? The child would have a cause of action against the defendant for the consequences of any failure on his part to treat her with ordinary professional skill and care, though she did not employ him. The plaintiff might also have a cause of action entirely separate and apart from that of his child for the loss of her services, due to the same failure to exercise ordinary professional care which gave rise to the child's cause of action. Generally speaking one is responsible for the direct consequences of his negligent acts whenever he is placed in such a position with regard to another that it is obvious that if he does not use due care in his own conduct he will cause injury to that person. This principle was applicable to the fact stated, and the demurrer to the complaint was properly overruled.

Assuredly this was a case in which there was every reason to hold that the defendant was under a legal duty to the plaintiff and it was of little practical consequence whether the duty was called contractual or noncontractual. The health of the people is an economic asset. The law recognizes its preservation as a matter of importance to the state. To the individual nothing is more valuable than health. The laws of Minnesota have been framed to protect the people, collectively and individually from the spread of communicable diseases. Scarlet fever is classed as such a disease. When the defendant discovered that the plaintiff's child was suffering from an infectious disease, it became his duty to comply with the laws of the state in order that the public health might be protected. His duty did not stop there. The child's parents were naturally exposed to infection to a greater degree than any one else. To advise them that they ran no risk in visiting her at the hospital or in taking her into their home necessarily exposed them to danger if they acted on the advice, and the defendant was bound to know that they would be likely to follow his advice. It was allowed that the advice was given negligently, and all the necessary elements of a cause of action based on negligence were present.

The court concludes that the complaint was not demurrable, although it might be true, as suggested that it is a matter of common knowledge that scarlet fever is an infectious disease and that the plaintiff might not have been greatly influenced by the defendant's alleged assurance that he might visit his child or take her to his home without running any risk of infection.

Osteopathy and the Practice of Medicine

(In re Opinion of the Justices (R. I.) 107 Atl. R. 102)

The Supreme Court of Rhode Island, in giving the opinion in answer to a question in regard thereto submitted by the governor, that persons who have received certificates to practice osteopathy from the state board of health, and who have registered in the town clerk's office of the city or town in which they reside their authority for so practicing, are legally entitled to sign death certificates in those cases in which they were last in attendance professionally on the deceased, says that it thinks the conclusion reached is strengthened by a consideration of the result if the other construction were adopted. In that case we should have this situation. The state by its examination and certificate has certified to the ability of the osteopath to discover the cause of the disease while the patient is alive, but, on the death of the patient, the osteopath then is to be held to be incompetent and unauthorized to state the cause of death. Such a construction is illogical, and its effect would be to impose in many instances unnecessary hardship and pain on the relatives of the deceased. It cannot be doubted that the practice of osteopathy as authorized by Chapter 1058 of the Public Laws of 1914 is the practice of medicine within the meaning of those words as used by Section 8 of Chapter 193, by which penalties are provided for the unlawful practice or attempt to practice medicine or surgery or any of the branches of medicine or surgery. The statute authorizes the licensed practitioner of osteopathy to make a diagnosis of diseased or abnormal conditions of the human body and to apply a remedy therefor. This power of diagnosis is not restricted. Having determined, however, the nature and the cause of the sickness the practitioner is then restricted to the remedy for the ailment which must be confined to manipulation of the body, the method and the extent of the manipulation is left to the judgment of the practitioner. But in some parts of the statutes the word 'physician" undoubtedly does have the limited meaning of doctor of medicine and not the broader meaning, as in Chapter 123, Section 54, by which it is provided that liquors are not to be sold, etc., except on a physician's prescription, and in Section 17 of Chapter 178, 'Of Medicines and Poisons" where it is provided that any physician who shall prescribe certain drugs, etc. As osteopaths have no authority to give prescriptions or to prescribe drugs, it is manifest that the word "physician" in these clauses does not include a practitioner of osteopathy.

Demand for Injection of Collargol Not Reasonable

(United States Fidelity & Guaranty Co. et al. v. Wickline (Neb.), 173 N. W. R. 689)

The Supreme Court of Nebraska holds that when a woman employee who has suffered an injury to one of her kidneys offers to permit a roentgenogram of the kidney to be made, but refuses to permit the injection of collargol into the kidney for the purpose of rendering it opaque, she does not necessarily by such refusal forfeit her right to compensation under the employers' liability act. The court says that in a former opinion it stated that in the present advanced state of the science of roentgen-ray examinations and photographs of the person there appears to be no reason why such examination or photograph should not be permitted by a claimant for compensation under the employers liability act, on request by the employer or insurer unless the request is shown to be unreasonable. The district court was therefore required to determine whether under the circumstances the request in this case was reasonable. A physician skilled in the art of making and reading roentgenograms testified that in order properly to determine the extent and character of the defendant's injury a roentgenogram of the kidney ought to be made and that in order to make a proper roentgenogram it might be necessary to inject collargol into the kidney. In the hands of an expert he said there is no danger whatever, but that procedure is not used as extensively as formerly, because of ability now to roentgenograph the kidney without it, though he found it necessary to use the solution in a few cases. The defendant testified that if the court called on her to have a roentgenogram taken, she would permit that to be done, but she would refuse to have collargol injected into her kidney. The district court found that the demand on her was not reasonable and that her refusal ought not to bar her from a recovery of compensation under the employers' liability act, and the supreme court is constrained to hold with the trial court, that the demand on Mrs. Wickline was not reasonable. It will be seen from the testimony produced by the plaintiff, the supreme court says that it is only in rare instances that it is necessary to inject this substance into the kidney, and it would seem that the plaintiff ought to have availed itself of the defendant's offer to submit to a roentgenoscopy without this injection. It might be that an injection was not necessary.

Society Proceedings

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Jan 14, 1920

The President Dr J Franklin Stahl in the Chair

The Question of Dental Infection in the Production of Nervous and Mental Diseases

Dr Charles K Mills Fortunately the mind of the profession seems to be tending toward a very healthy discussion of the probable fallacies of dental infection in its relation to various important diseases and of many other correlated and zealously exploited views Shortly after the death of Colonel Roosevelt a newspaper article appeared which illustrated one of the most dangerous forms of medical propaganda It was stated that one of Colonel Roosevelt's teeth was the indirect cause of his death, and that thousands of persons die or are incapacitated yearly from maladies arising from infected teeth The cases of a rescued backward boy whose brain was clouded to the point at which he could not master the rudiments of knowledge, and a youth assailed with a lethargy at the age of 15, who afterward became one of the most brilliant lawyers of the Middle West, were included in a series of cases supposedly illustrative of the marvelous results of the removal of infected teeth I have but little doubt that literally bushels of teeth of excellent quality have been sacrificed as the result of this atrocious article about Colonel Roosevelt Viewing roentgenograms I have been skeptical as to what are designated as abscesses at the roots of teeth It has always seemed to me that these pictures represented absorptive lacunae or artefacts of some other description rather than true abscesses The roentgen ray enables us to discriminate between areas of differing density In a strict sense an abscess cannot be demonstrated by a roentgenologic investigation A score or more of cases have come to my knowledge in which important mental and nervous diseases have been attributed to dental infection and in which the teeth had been removed with results in some instances so harmful as to make me feel that the procedure was almost a criminal one Dr Cotton one of the leading psychiatrists of the country attributes many and diverse forms of insanity to dental infection The late Dr August Hoch in a critical review of one of Dr Cotton's articles clearly points out the logical defects in the presentation Under the influence of the propaganda of focal infection to use the expression of Dr Peterson, the colons of epileptics bid fair to be reduced to semicolons by operation The appendix will soon no longer be a vestigial illustration and the tonsil protrusive and submerged is sharing the fate of the ovary in our early experience A nose and throat specialist not long ago gravely informed me that he thought of preparing a statute to be presented to the state legislature making compulsory the extirpation of the tonsils of children after reaching a certain age on the theory that prevention is better than cure On the same principle may not our exodontist friends be called in for their exterminating activities and thus free the rising generation of teeth which in the course of time may have their roots infected and abscessed? I protest against the too free use of the therapeutics of organic mutilation If the craze for violent removal goes on it will come to pass that we shall have a gutless glandless toothless and perhaps, thanks to psychology and surgery a witless race

Dental Therapeutics Based on Clinical and Roentgen-Ray Investigations

Dr William Middleton Fine As a dentist I am forced to believe that too many teeth are extracted in the expectation that their removal will cure systemic disturbance Because it is possible to demonstrate the same micro organisms in pulpless teeth and in arthritic joints it should not be stated that the teeth are invariably the primary cause of the infection The extraction of badly decayed teeth with root abscesses, or their restoration to health and usefulness removes one of the contributing factors in the cause and development of many diseases I do not share the belief that all nonvital teeth should be removed Our bodily protective processes prevent well treated teeth without living pulps being the direct cause of disease Talbot would lead us to believe that all the shadows in roentgenograms of dead teeth are not abscesses and that these teeth should not be extracted ruthlessly I agree with those who advise the extraction of dead and diseased teeth after a thorough attempt to effect a cure has failed or is doubtful It is more than likely that 75 per cent of the shadows in the roentgenograms at the apical ends of teeth have been caused by irritation from mechanical treatment and the use of drugs in dental operations and hence these teeth are removed unjustifiably I have seen teeth that roentgen-ray examination indicated were abscessed—as some men would say—remain fifteen years or longer without any symptom of disease local or general I received recently three cards from men announcing that they were giving up general practice to specialize in extraction of teeth We do not need three new extractors every week

Present Status of Oral Sepsis in Relation to Systemic Disease

Dr James M Anders The importance of the relation of tooth root infection to systemic diseases cannot be overemphasized from the point of view of study and investigation Our knowledge of the flora of the mouth as related to special affections is still imperfect A closer cooperation between dentist and physician along bacteriologic lines is urgently needed to deal intelligently with affections of the teeth and alveolar processes and to correct the haphazard sacrifice of the masticating apparatus I recall a case one of epilepsy in a young woman, aged 19 in which, on the advice of a physician all the teeth although in good condition, were extracted without of course, any effect on the epilepsy It behooves physicians and dentists to oppose the appalling present rate of removal of teeth It has been shown that after the fortieth year of life disseminated infections leading to constitutional disturbances are more frequent and of more serious character than in younger subjects That many morbid medical conditions may be of oral origin is shown in their cure following the removal of the foci of oral infection Among many such medical conditions are arthritis endocarditis pericarditis myocarditis gastritis myocardial degeneration chronic nephritis and exophthalmic goiter Gingival and dental diseases however, are rarely the sole cause of the morbid states for which gums and teeth may be held responsible Before teeth are condemned, it is a matter of vital importance to determine that other than oral infectious foci are not present Treatment based on roentgen ray studies alone is unwise since the deeper dental lesions may be simulated by other local conditions and an abscess which actually exists may not be shown The local and clinical features are to be noted carefully and extreme caution should be observed in ascribing a systemic infection to the mouth condition Bacteriologic study is essential in oral infections Sanitary oral cavities are potent factors in limiting the incidence and spread of communicable diseases

Roentgen-Ray Studies of Dental Defects

Dr Henry K Pancoast The roentgenologist is not able to judge of the direct connection between dental conditions and their supposedly resultant systemic conditions This is the work of the internist Not all clear areas are due to abscesses at the roots of teeth Some may be due to old infections others to chemical irritants If read properly however most of these clear areas represent active abscesses I am opposed to the wholesale extraction of teeth In many instances it is possible to treat abscessed teeth successfully and have good service from these teeth afterward An abscess may be present at the root of a tooth and not show in the roentgenogram but that is a rare occurrence Experience in the interpretation of the roentgenograms is more important than the technic and such interpretation is best carried out by the dentist and the roentgenologist in collaboration

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Medical Sciences, Philadelphia

January 1920 159 No 1

Some Practical Points in Prostatic Surgery J B Deaver Philadelphia —p 1
Surgical Renal Tuberculosis Prognosis W F Braasch Rochester Minn —p 8
Diagnostic Significance of First Sounds of Heart Le Roy Crummer Omaha —p 20
Diabetic Service at U S Army General Hospital No 9 Lakewood N J F M Allen and J W Mitchell New York —p 24
Studies in Bone Growth An Experimental Attempt to Produce Pseudarthrosis F H Albee New York —p 40
*Points in Pharmacology of Certain Drugs Used for Stomach Effect W A Bastedo New York —p 53
*Roentgen Ray Sign of Perinephritic Abscess M H Fussell and H K Pancoast Philadelphia —p 67
Effects of Restricted (So Called Ulcer) Diets on Gastric Secretions and Motility B B Crohn and J Reiss New York —p 70
Clinical Experience with Sahli's Sphygmobolometer N B Potter Santa Barbara Calif —p 93
*Rapidity and Persistence of Action of Digitalis on Hearts Showing Auricular Fibrillation G C Robinson St Louis —p 121

Surgical Renal Tuberculosis—Coincident active pulmonary tuberculosis was found by Braasch in approximately 5 per cent of his patients of whom more than 60 per cent recovered following nephrectomy Involvement of genitalia was present in at least 73 per cent of male patients but did not seem to affect the ultimate recovery Frequency of spontaneous healing of lesions in the prostate and seminal vesicles contraindicates their removal by subsequent operation Evidence of tuberculosis involving the bones and joints was noted in 6 per cent of the cases, one half of the lesions were active The late mortality was 5 per cent from which it may be inferred that the presence of such complications may be an index of increased resistance Spondylitis, usually healed was present in 5 7 per cent with a mortality of 12 per cent Tuberculous adenitis was present in nineteen patients (6 4 per cent) and the low mortality (10 per cent) is suggestive of a heightened resistance The operative mortality is a negligible factor the late mortality (five years or less after operation) is approximately 20 per cent , failure to effect complete cure is approximately 20 per cent , this leaves a prognosis of recovery in 80 per cent and of a complete cure to be expected in fully 60 per cent of patients

Pharmacology of Certain Drugs—A number of drugs were studied by Bastedo and some of his findings in the use of the more important ones were as follows In the ordinary hyperacidity case, with cessation of secretion at the usual time atropin or belladonna in maximum doses, either by mouth or hypodermic had no useful effect on acidity or secretion In hyperacidity cases atropin had no useful effects in any dosage In continuous hypersecretion cases it may check the secretion after the digestive period but it does this in maximum doses only In pylorospasm it may be useful but in maximum doses only In the doses usually employed it is wholly without effect on the secretory or the motor function of the stomach In cases of achylia gastrica, whether or not accompanying pernicious anemia a deficiency of acid may be partially overcome by hydrochloric acid medication For digestive purposes hydrochloric acid should always be accompanied by pepsin In the achylias with diarrhea acid promises a more noticeable result than in the achylias without diarrhea When acid produces sourness and stomach irritation its use should not be continued To avoid acidosis alkalies should be given during the same period, though not at the same time as the acid the amount required being judged by the effect on the urine reaction A bitter is useful as an appetizer for those with subnormal nutrition as in convalescence from acute illness provided that it is taken not more than five or ten minutes before the time for eating It acts in achylia gastrica as well as in cases with gastric secretion In subacidity it promotes the secretion of gastric juice It should be administered in just sufficient dose to give a strong bitter taste, and not in amounts large enough to have a depressant action in the stomach If the patient is in a state of normal nutrition but psychically disturbed about eating, it will be useless If the appetite is already normal the bitter may not only fail to increase appetite but may even lessen it If the stomach and bowels are deranged, bitters may nauseate The effect on appetite is solely the local one on the taste buds, therefore it cannot be obtained if the bitters are hidden in capsules or coated pills

Roentgen-Ray Diagnosis of Perinephritic Abscess—Cases are cited by Fussell and Pancoast to show that the roentgen ray will aid in the diagnosis of perinephritic abscess In the first case cited this fluid was demonstrated while the patient was standing in the fluoroscope The shoulders of the patient were grasped and the patient's body moved quickly two or three times from side to side Watching the fluoroscopic picture showed a distinct wave in the supposed fluid The renal region was opened and a huge sac of pus was demonstrated within the capsule of the kidney

Effects of Diets on Gastric Secretion—The study made by Crohn and Reiss shows that medical treatment, consisting of restricted diet and rest in bed causes the cessation of hypersecretion in 45 per cent of cases a fair proportion clinical improvement takes place as often in cases with persistent hypersecretion as in those relieved of their excessive flow of gastric juice and is apparently not dependent on it Cases that fail to show clinical and chemical improvement are of two kinds patients with advanced indurated ulcers which are resistant to treatment and those with a marked neurosis The first class can be reduced in number by more persistent and more protracted treatment The second group requires the expert care of a neurologist, often of a psychanalyst Mistakes in diagnosis undoubtedly form a third group of not inconsiderable proportion The beneficial effects of medical treatment are seen in those cases of hyperacidity hypersecretion and pylorospasm accompanying latent cholelithiasis or chronic appendicitis as well as in ulcer cases or functional secretory disturbances

Action of Digitalis on the Heart—This paper was abstracted in THE JOURNAL, Aug 30 1919, p 715

Archives of Internal Medicine, Chicago

Jan 15 1920 25 No 1

*Harmful Effects of Shallow Breathing with Special Reference to Pneumonia J Meakins Montreal —p 1
Physiology of Stomach A C Ivy Chicago —p 6
*Effect of Roentgen Rays on Metabolism of Cancer Patients R N DeNiord B F Schreiner and H H DeNiord Buffalo —p 32
*Cerebrospinal Fluid in Multiple Sclerosis J F Moore Baltimore —p 58
*Cavity Formation and Annular Pleural Shadows in Pulmonary Tuberculosis *J A Honeij New Haven Conn* —p 63
Rat Bite Fever Report of Case A Arkin Morgantown W Va —p 94
Protein and Lipin Contents of Blood Serum in Nephritides M Kahn New York —p 112

Shallow Breathing and Pneumonia—A number of cases of pneumonia were investigated by Meakins in order to determine the quantity and quality of the expired air It was found that as the respiratory rate increased there was a gradual decrease in the volume per respiration but the total ventilation per minute showed a conspicuous increase Meakins believes that the conclusion is justified that the anoxemia occurring in acute lobar pneumonia is the result of the rapid and shallow breathing typical of this condition

Physiology of Stomach—*Ivy reports the results of his* studies on gastric ulcer including studies on the pathologic physiology of the stomach and duodenum in the condition of ulcer of these parts of the gastro-intestinal tract

Roentgen Rays and Cancer—Of forty-one cases studied by DeNiord and his associates thirty-four, or 83 per cent, showed a varying excess of total fat in the blood before exposure to the roentgen rays One-half hour after exposure to the roentgen rays the first findings were increased in thirteen cases and decreased in twenty-eight cases Twenty-four hours after treatment with the roentgen ray the first findings were increased in six cases and decreased in thirty cases Thus, the total fat content was diminished in 83 per cent of his series of cases after exposure to the roentgen ray and in some cases the decrease was preceded by a slight rise of the total fat quantity Urea urea nitrogen and creatinin showed nothing characteristic of the cancer patient The moderate uric acidemia which exists for a short period of time after exposure to roentgen rays the others claim is the result of nuclear degeneration but is not especially characteristic of malignancy The sodium chlorid content of cancer patients is altered neither by the presence of the tumor nor the exposure to roentgen rays The cholesterol fatty acids and total fats are generally increased in cases of malignancy Cholesterol is increased in the blood but this is not in proportion to the duration of exposure to the roentgen ray or varied as to the type of tumor The increase of cholesterol in the blood is probably due to cellular autolysis with liberation of cholesterol induced by the action of the roentgen rays Fatty acids and total fats are consistently high in the blood of cancer patients and this increase is reduced by the roentgen rays The authors do not give any reason or hypothesis for the reduction, as they are at present carrying on further studies along this line The final conclusion arrived at is that there is nothing in the behavior of the blood sugar or diastatic activity that is diagnostic of cancer However the roentgen rays activate the diastase for a short period of time to a greater than normal activity The plasma and corpuscle percentages were unaltered by the effect of the rays, hence are of no diagnostic value in cancer

Cerebrospinal Fluid in Multiple Sclerosis—The cerebrospinal fluid findings in twenty-eight cases of multiple sclerosis are reported by Moore In twenty cases the diagnosis is clinically certain, in the other eight cases it is clinically doubtful In the first group the findings are (*a*) negative blood and spinal fluid Wassermann (all cases) (*b*) pleocytosis (eight cases), (*c*) positive globulin (eighteen cases), (*d*) paretic gold curve (eighteen cases) In the second group the findings are the same except for the gold curve, which was syphilitic in three cases and negative in five cases Together with the clinical evidence, it is believed that the spinal fluid picture is fairly constant, and that, other things being equal such a picture is a strong argument in favor of a diagnosis of multiple sclerosis In its absence the diagnosis becomes at least doubtful

Pulmonary Tuberculosis—There are three conditions Honeij says which at times may be confused and which make a differential diagnosis difficult or often impossible These include (*a*) true cavitation in pulmonary tuberculosis, with and without fibrous walls (*b*) true pleural annular shadows with and without pulmonary disease (*c*) false annular shadows of intrapulmonary bronchial origin occurring in early pulmonary tuberculosis and other chest conditions These three conditions are illustrated A clear understanding of the pathologic processes involved thorough appreciation of the different clinical signs is needed and since in a broad sense physicians are less interested in the presence or absence of cavitation than in its effect on diagnosis treatment and prognosis it is essential carefully to consider other acute or chronic lung lesions in conjunction with the direct evidence of cavitation

Arkansas Medical Society Journal, Little Rock

January 1920 **16** No 8

Infection Exhaustion Psychoses C C Kirk, Little Rock—p 157
Attitude of Obstetrician to Illegitimate and Mother G A Warren Black Rock—p 158
Pruritus Ani F H Terrell Richmond Va—p 162

Boston Medical and Surgical Journal

Jan 29 1920 **182** No 5

Calorie as Unit in Figuring Milk Modification T J Putnam Boston—p 107
Experience with Schick Test and Toxin Antitoxin Plea for Use in Extinction of Diphtheria T F Lilly Shirley Mass—p 110
Psychose Accompanying Influenza F W Fell Cincinnati—p 113
Treatment of Gonorrhea in Male A H Crosbie Boston—p 116
Tissue Injury an Important Factor in Development of Tuberculo H F Gammons Dallas Tex—p 119

Injury of Tissues and Tuberculosis—Gammons reports four cases in which he believes that injury was an important factor in determining the localization of the tubercle bacilli Two of the patients fell and injured the knee Several years later tuberculosis of the knee was diagnosed In the third case the patient was kicked by a horse in the vicinity of the right ilium An abscess formed later and the pus was positive for tubercle bacillus Tuberculosis of the ilium was found The same patient injured the right ankle It too became tuberculous The fourth patient sustained a contusion of the right hand Tuberculosis of the small bones developed All of these patients also had a pulmonary tuberculosis

Indiana State Medical Ass'n Journal, Fort Wayne

Jan 15 1920 **13** No 1

Value of Roentgen Ray in Diagnostic Work of Internist G W McCaskey Ft Wayne—p 1
Some Fractures of Pelvis C Haywood Elkhart—p 8
*Relative Merits of Surgery Radium and Roentgen Ray in Treatment of Uterine Fibroids E I Padgett Indianapolis—p 12
Conservative Surgery O O Melton Hammond—p 14

Value of Roentgen Ray in Diagnostic Work—While McCaskey appreciates the value of roentgen ray examinations and other aids to diagnosis he emphasizes the fact that these methods never make a complete or rational diagnosis but are simply factors albeit sometimes indispensable factors in the general diagnostic judgment He fears that roentgenologists are often pressingly solicited by physicians for specific diagnostic judgments and that they too often yield to the importunity when they should make it plain that their duty is done when they give an objective description of their findings So common has it become for roentgenologists to attempt to arrive at diagnostic conclusions from their studies alone that it is sometimes difficult to get from them the objective description that one desires either alone or accompanied by a diagnostic impression Instead the reports of chronic infectious arthritis ' pulmonary tuberculosis" or some other diagnosis come in McCaskey believes that this unsatisfactory state of affairs will soon be remedied so that roentgenology and internal medicine will reciprocally benefit one another to the utmost

Surgery, Radium and Roentgen Ray in Treatment of Uterine Fibroids—This paper was abstracted in The Journal Nov 1 1919 p 1390

Journal of Biological Chemistry, Baltimore

January 1920 **41** No 1

Crystalline Uridinphosphoric Acid P A Levene New York—p 1
Determination of Saccharin in Urine C S Jamieson Washington D C—p 3
Thermoregulator with Characteristics of Beckman Thermometer R B Harvey Washington D C—p 9
Determination of Hydrogen Ion Concentration J W M Bunker Detroit—p 11
Identification of Citric Acid in Tomato R I Kremers and I A Hall Madison Wis—p 15
Structure of Yeast Nucleic Acid V Ammonium Hydrolysis P A Levene New York—p 19
Quantitative Estimation of Indol in Biologic Medium H F Zoller Washington D C—p 25
Availability of Carbohydrate in Certain Vegetables W H Olmsted St Louis—p 45
Alkaline Reserve Capacity of Whole Blood and Carbohydrate Mobilization as Affected by Hemorrhage A I Tatum Chicago—p [illegible]
Hemoglobin I Optical Constants W H Welker and C S Williamson Chicago—p [illegible]
Fat Soluble Vitamin III Comparative Nutritive Value of White and Yellow Maizes H Steenbock and P W Boutwell Madison W—p 81
*Protein Requirement of Maintenance in Man and Nutritive Efficiency of Bread Protein H C Sherman New York—p 97
Effect of Iodids on Autolysis of Liver Tissue I C Albrecht Chicago—p 111
Chemical Study of Blood of Several Invertebrate Animals R C Myers Palo Alto Calif—p 119
Chemical Study of Whale Blood R C Myers Palo Alto Calif p 137

Determination of Saccharin in Urine—The method described by Jamieson is based on the quantitative extraction of the saccharin with ether from the acidified urine which had been previously treated with normal lead acetate and filtered After acidifying with hydrochloric acid the saccharin is extracted by ether the ether removed by [illegible] tion, and the saccharin extracted from the residue with ether The ether is removed and the resulting residue is fused with sodium carbonate and the sulphur determined as barium sulphate The amount of saccharin is calculated from the sulphur found after making a correction for the blank The experimental results obtained by the analysis of urines, to which known amounts of saccharin had been added, show that the method is capable of giving satisfactory results, providing that the directions are followed exactly as described in every detail

Citric Acid in Tomato—The presence of citric acid in tomato juice was shown by Kremers and Hall by means of its triphenacyl ester

Carbohydrate in Certain Vegetables—Vegetables usually used in low carbohydrate diets for diabetic patients were analyzed by Olmsted by the use of diastase and copper reduction and by feeding to phlorizinized dogs The results are given in detail

Effect of Hemorrhage on Alkaline Reserve and Blood Sugar—The results of the experiments described by Tatum appear to indicate that hemorrhage produces a rise in blood sugar by changes in the state of acid-base balance in body cells, which state is fairly well reflected in corresponding changes in the general circulation The chief seat of action is probably the liver for this is the location of glycogen storage most readily affected

Hemoglobin as Means of Identifying Species—From the results obtained by Welker and Williamson, it would appear that there is not sufficient difference in the absorption coefficients of the hemoglobin of various species to serve as a means of identification of the species This finding confirms the conclusions of most previous investigators

Protein Requirement of Maintenance—Sherman states that even when the protein of the food is almost entirely derived from bread or other grain products with a diet adequate in energy value a daily intake of about 0 5 gm of protein per kilogram of body weight is sufficient to meet the actual requirements of maintenance in healthy men and women While, if numerous older experiments having a tendency to high results, are included, the average is somewhat less than 0 66 gm of protein per kilogram of body weight A standard allowance of 1 gm of protein per kilogram of body weight per day appears, therefore to provide a margin of safety of from 50 to 100 per cent, as far as the requirements of adult maintenance are concerned It is plainly desirable in all cases that grain products be supplemented by milk products and it is clear that in providing for needs of growing children and of pregnant or nursing mothers the proportion of milk in the diet should be more liberal than it need be when only maintenance is concerned, this both because of the superior amino-acid make-up of the milk proteins and to provide amply for the mineral elements and vitamins as well

Journal of General Physiology, Baltimore

Jan 20 1920 2 No 3

Action of Strychnin and Nicotin on Neuromuscular Mechanism of Asterias A R Moore New Brunswick N J—p 201
Studies on Bioluminescence Action of Acid and of Light in Reduction of Cypridina Oxyluciferin E N Harvey Princeton N J—p 207
Studies on Enzyme Action Saccharogenic Actions of Potato Juice G McGuire and K G Falk New York—p 215
Photochemical Nature of Photosensory Process S Hecht Omaha—p 229
Free Energy of Biologic Processes G A Linhart, Berkeley Calif—p 247
Apparatus for Measurement of Oxidase and Catalase Activity R B Harvey Washington D C—p 253
Influence of a Slight Modification of Collodion Membrane on Sign of Electrification of Water J Loeb New York—p 255
Influence of Concentration of Electrolytes on Some Physical Properties of Colloids and of Crystalloids J Loeb New York—p 273
Quantitative Laws in Regeneration J Loeb New York—p 297

Saccharogenic Action of Potato Juice—The saccharogenic enzymes present in potato juice were studied by McGuire and Falk The actions were followed on the substances present in the juice and on added sucrose, maltose and soluble starch Sucrase and amylase were found to be present in the juice No indication of a maltase was obtained The sucrase showed optimum conditions for action at p_H 4 to 5, the amylase at p_H 6 to 7 both on the starch present in the juice and on added soluble starch The action of a yeast sucrase preparation on the juice showed the presence of sucrose (or raffinose) in a concentration of the order of magnitude of 1 per cent

Journal of Industrial Hygiene, Boston

January 1920 1, No 9

*Syphilis in Railroad Employees J H Stokes and H E Brehmer, Rochester Minn—p 419
Proper Executive Function of Industrial Physician D R Kennedy and R M Neustadt Philadelphia
Prevention of Fatigue in Manufacturing Industries R A Spaeth Baltimore—p 435
Organizing an Industry to Combat Influenza C E Turner Boston—p 448
Home Work Emma Duke Washington D C—p 452
Sanitation of Industrial Water Supplies G M Fair, Cambridge Mass—p 457

Frequency of Syphilis Especially in Railroad Employees—A general medical examination of 1,763 patients of the Mayo Clinic showed that 3 1 per cent had syphilitic infections obvious enough to be detected without the use of the routine Wassermann test The lowness of these figures Stokes and Brehmer contend reflects, to some extent, the weakness of clinical judgment in the recognition of this disease as compared with current figures based on the routine Wassermann test Part of the lowness of these figures is attributable to the large farming element in the clientele of the clinic and to the low incidence of venereal diseases in the states from which most of the patients are drawn Of the railroad employees examined, 11 7 per cent had syphilis The disease was eight times as frequent in them as in farmers (1 5 per cent), three times as frequent in them as in business men (3 8 per cent), and twice as frequent as in laborers (6 1 per cent) The doubtful value of the history of the infection and the blood Wassermann test in the recognition of these cases is shown by the fact that 24 per cent of the patients gave no history of infection other than gonorrhea, 62 5 per cent had observed no secondary manifestations and 53 per cent were completely Wassermann negative on the blood On the other hand, 64 per cent of those whose spinal fluids were examined showed positive findings Of the diagnoses, 58 7 per cent were contributed by laboratory procedures, 41 3 per cent were identified by routine physical examination Of the men examined 79 5 per cent had syphilis of the nervous system, 18 7 per cent had cardiovascular syphilis Pupillary abnormalities muscular paralyses and fundus changes were present in 62 5 per cent of the cases Of the persons examined 65 1 per cent showed abnormal knee reflexes and similarly high percentages prevailed for the other simpler details of the neurologic examination Definite mental symptoms were present in 38 4 per cent These findings suggest that the routine railroad medical examination is insufficient to protect the public from the dangers of syphilis in men concerned in the operation of the trains Three suggestions are made with a view to increasing the efficiency of the railroad medical examination with respect to the recognition of syphilis First routine Wassermann tests should be performed on all employees between the ages of 17 and 25 by a competent state board of health laboratory and repeated on all employees reaching 32 years of age Second there should be annual effective examination of men between the ages of 25 and 40 rather than of men over 50 Such examinations should include more attention to pupillary reactions than is at present given, and should employ those fundamentals of the neurologic examination such as tests of the deep reflexes Romberg etc These can readily be performed by competent general examiners Third formal educational propaganda should be undertaken by railroad medical departments for the education of medical examiners and employees alike to the great significance of syphilis in industrial insufficiency and personal ill health

Journal of Medical Research, Boston

November 1919 41 No 1

Studie on Rocky Mountain Spotted Fever S B Wolbach Boston

Rocky Mountain Spotted Fever—It is impossible to abstract briefly the results of the extensive and detailed study made by Wolbach All phases of the subject are discussed The conclusions as to the parasite itself are these Three definite morphologic types of the spotted fever parasite can be recognized (1) An extranuclear bacillus-like form without chromatoid granules, relatively large and only present in ticks during the initial multiplication of the parasites, (2) a relatively small rod-shaped form with *chromatoid granules, probably the same form seen within* nuclei in sections of ticks, and rarely in smooth muscle cells in the blood vessel of mammals and (3) a relatively large lanceolate paired form present in ticks and in the blood and lesions in mammals This lanceolate form is characterized by its "chromatoid' staining reaction, and according to the evidence at hand, is the form in which the virus is passed between the tick and mammalian hosts The other two forms described are multiplicative stages and can only be demonstrated occasionally and with difficulty in mammalian hosts The name *Dermacentroxenus rickettsi* is proposed by Wolbach for this parasite

Journal of Urology, Baltimore

August 1919 **3**, No 4

*Operative Treatment of Seminal Vesiculitis J H Cunningham Boston —p 175
*Etiology of Vesical Diverticulum F Hinman, San Francisco —p 207
Histologic Study of Ureter Y Satani Baltimore —p 247
Colliculus Seminalis at Birth Origin Development and Zonal Distribution of Its Gland Tubules E M Watson Buffalo —p *269*
Simple Apparatus for Continuous and Automatic Bladder Irrigation F Hinman San Francisco —p 281

Operative Treatment of Seminal Vesiculitis—Cunningham discusses the relationship between infections of the prostate and the seminal vesicles and arthritis, and the surgical treatment of these infections

Etiology of Vesical Diverticulum.—In Hinman's opinion vesical diverticulum is the result of anatomic, pathologic and mechanical factors in the vast majority if not all instances and in this sense is always an acquired condition A mild and chronic urinary obstruction in association with the necessary anatomic or pathologic predisposing conditions of the bladder wall, is particularly conducive for the development of diverticulums Median bar formation is one of the most frequent types of obstruction

Kentucky Medical Journal, Bowling Green

January 1920 **18** No 1

Semicentennial of *Medico Chirurgical* Society *of* Louisville L S McMurtry Louisville —p 3
Acute Mastoiditis W B McClure Lexington
Surgery of Thyrotoxicosis L Wallace Frank Louisville —p 10
Modern Day Diagnosis L L Solomon Louisville —p 15
Some Phases of Diseased Gallbladder and Bile Duct H H Grant Louisville —p 22

Laryngoscope, St Louis

December 1919 **29** No 12

Intracranial Infections Complicating Mastoiditis S J Kopetzky New York —p 679
Nature and Origin of Stammering E L Kenyon Chicago —p 700
Enucleation of Tonsils, Local Anesthesia E G Gill Roanoke Va —p 715
Hoarseness Caused by Thyro Arytenoid Interni Paresis with Symptoms Simulating Acute Pulmonary Tuberculosis Due to a Sinus Infection E L Myers St Louis —p 720

Maine Medical Association Journal, Portland

January *1920* ***10*** *No 6*

Treatment of Pneumonia. L L Powell Portland —p 159
Education and Recreation in Army W G Haan U S Army —p 178

Medical Record, New York

Dec 27 1919 **96** No 26

Rene Theophile Hyacinthe Laennec S A Knopf New York —p 1039
New Technic (Diet and Roentgen Ray) in Treatment of Cancer I R Cook New York —p 1042
Christian Science Psychosis E H Williams Los Angeles —p 1048
Proposed Compulsory Health Insurance Law Its Injustice to Physicians Dentists and Pharmacists T J Kindred River Crest L I —p 1050
Posture in Defecation L D Bulkley New York —p 1053

Jan 3 1920 **97** No 1

Hysterical Symptoms T A Williams Washington D C —p 1
Value of Laboratory Examinations in Diagnosis and Prognosis in Otolaryngology S Oppenheimer and H J Spencer New York —p 7
Function and Clinical Uses of Pineal Gland W N Berkeley New York —p 12
Heredity as Factor in Etiology of Neoplasms V H Moon, Indianapolis —p 14
*Deterioration of Cardiovascular Stimulants Means of Preserving and of Increasing Their Therapeutic Efficiency E Zueblin Cincinnati —p 16

Preserving and Increasing Therapeutic Efficiency of Cardiovascular Stimulants—Zueblin urges that proper instruction of the wholesale and retail druggists ought to be encouraged on the subject of deterioration of chemicals and pharmaceutical preparations In Zueblin's experience fermentative processes in the organic drugs cannot be discarded entirely as a possible cause of these changes Whenever possible he says, use fresh drugs freshly prepared they will serve the purpose better for securing help and improvement to the patients The old and shopworn preparations, after a more or less prolonged existence of oblivion in the drawers or in the form of old solutions will be called on in vain to save a patient's life In his experimental work Zueblin incidentally detected a possibility of increasing the therapeutic efficiency and electric radiation of drugs by a short exposure of various remedies to the passage of electric waves The practical methods of such a process are still a subject of studies and experimentation but this much can be said that the 'life period of the drugs can be raised to several months and even years Equally there seems to exist a possibility of imparting new life to dead pharmaceutic preparations and compounds, and by *doing so to restore and increase pharmacodynamic* activity

Jan 10 1920 **97**, No 2

Motility in Animal Organism F H P Ward White Plains N Y —*p 47*
Surgical Disorders of Digestion W D Haines Cincinnati —p 58
What Has the War Taught Us of Tuberculosis? S J *Maher* New Haven Conn —p *60*
Heliotherapy in Tuberculosis J B Dinnan Meriden Conn —p 62
*Treatment of Influenza by an Apparently Specific Method F E Park Stoneham Mass —p 66

Treatment of Influenza—Park injects intravenously sodium salicylate soluble iron phosphate and beechwood creosote in lime water Physiologic sodium chlorid solution is the vehicle used

Minnesota Medicine, St Paul

February 1920 **3** No 2

The Clinician and Research W W Herrick New York —p 47
Epidemic Lethargic Encephalitis C E Riggs St Paul —p 49
Treatment of Urethral Caruncle J L Crenshaw Rochester, Minn —p 54
Diagnosis and Treatment of Peripheral Nerve Injuries A F Bratrud Minneapolis —p 57
Clinical Course and *Pathology* of an *Obscure Osteitis* Causing Loose Bodies in Joints A R Colvin St Paul —p 65
A Newer Syphilitic Outlook A A Baker Minneapolis —p 69
Early Diagnosis and Treatment of Acute Inflammations of the Eye E W Benham Mankato —p 73
Medicine Forty Years Ago Glances in Retrospect Comparison with Later Periods W Courtney Brainerd —p 76
Diphtheria T A (Toxin Antitoxin) C B Drake St Paul —p 81

Treatment of Urethral Caruncle—*Under* cocain anesthesia Crenshaw clamps the caruncle and cuts it off close to the upper surface of the clamp The cut surface is thoroughly seared with acid nitrate of mercury solution applied with a wooden applicator All tags are removed in the same manner Symptoms are relieved almost immediately

Modern Hospital, Chicago

January 1920 **14** No 1

High Hospital Building Proves a Success F Stot —p 1
Air Control and Reduction of Death Rate After Operation F Huntingdon New Haven Conn —p 10
Entertaining Sick and Convalescent Children in Hospital and Home M H Parker Worcester Mass —p 15
Plea for Education for Young Men as Nurses B I Bailey Lincoln Neb —p 18
New Brockton Hospital Building Represents Result of Three Years Study L B Packard Brockton Mass —p 0
Management of Contagious Disease Hospital D L Richardson Providence R I —p 0
Development of Hospital Organization in Canada M T MacEachern Vancouver B C —p [illegible]

Modern Medicine, Chicago

January 1920 **2**, No 1

Underlying Causes of Narcotic Habit A Lambert New York —p 5
Occupational Therapy and Vocational Guidance for the Tuberculous H A Pattison New York —p 10
Medical Service of Illinois State Institutions Under New Code A L Bowen Springfield Ill —p 17
Standards of Public Maternity Care H Ehrenfest St Louis —p 27
Application of War Surgery to Industrial Practice D Hinton Philadelphia —p 38
Physician and Surgeon in Industrial City O P Geier Cincinnati —p 41
Eye Injuries F C Trebilcock Toronto Can —p 46
Trachoma in Camps and Hospitals of U S Army B Chance Philadelphia —p 60
Handshaking as Route of Infection H W Hill St Paul —p 72

Underlying Causes of Narcotic Habit—These causes Lambert says must be sought for in the psychology of a personality unable or unwilling to face individual problems, difficulties disappointments or defeats In such cases an anodyne is demanded to bolster up the ego or to afford escape from painful experience Solve the personal problem and the individual is freed from the need of narcotic forgetfulness

Handshaking as Route of Infection—The general conclusion of most practical observers has been that the route of hand infection is the great pathway of infection, and is responsible for perhaps 90 per cent of all contact infection medical or surgical except the venereal diseases While the handshake does not rank with kissing in directness it is not confined like kissing to the exchange of nasal or oral discharges but includes the discharges of the bowel and bladder Moreover, the hands are so constantly infected and handshaking is so constantly repeated that in the long run Hill says it probably eclipses the relatively less common and less promiscuous kissing in its sum total damage

New York Medical Journal

Jan 10 1920 **111** No 2

Hysterical Vomiting A F Hurst London —p 45
Errors in Present Day Abdominal Diagnosis J B Deaver Philadelphia —p 49
Vaccine Antitoxin Method in Treatment of Diphtheria F M Wood Chicago —p 53
Repairs Following Labor W E Parke Philadelphia —p 54
Asthma Caused by Insufficiency of Pylorus M J Knapp New York —p 55
Poland in World War from Medical Aspect F E Fronczak Buffalo —p 59
Radical Operation for Cholesteatomatous Mastoiditis O Glogau New York —p 64
The Blood Pressure Vogue D Nathan Norristown Pa —p 67
Sarcoid Tuberculosis of Skin C C Cumston Geneva Switzerland —p 67

Philippine Journal of Science, Manila

June 1919 **14** No 6

Mechanical Properties of Philippine Bast Fiber Rope A E W King Manila —p 561
Pink Disease of Citrus Trees H A Lee and H S Yates Manila —p 657

Southern Medical Journal, Birmingham, Ala

January 1920 **1** No 1

Work of Medical Department During War M W Ireland M C U S Army —p 1
National Research Council H A Christian Boston —p 3
Status of Amebic Dysentery Diagnosis and Treatment R Lyon New Orleans —p 4
Otitis Media J F Royster Norfolk Va —p 10
Doubts Differences and Difficulties in Diagnosis of Gastro-Intestinal Diseases T C Johnson Atlanta —p 14
Facts and Fallacies Relating to Maternal Feeding of Infants J D Love Jacksonville Fla —p 16
Prevalence of Amebic Cercomonas Intestinalis Hominis and Pellagrous Infections in the South J L Jelks Memphis —p 22
Problems in Control of Acute Infectious Diseases in Army F J Russell M C U S Army —p 29
Sanitary Social Service Based on Experience with Bureau of Venereal Diseases M Board Louisville —p 37
Lessons from War J M T Finney Baltimore —p 40
Medical Profession in War Its Sacrifices and Compensations Humanity's Gains J L Crook Jackson Tenn —p 46
Fracture of Lower End of Humerus C A Vance Lexington Ky —p 50
New Operation for Suspension of Uterus F C Dubose Selma Ala —p 57
Scientific Team Work in Diagnosis and Treatment of Diseases of Eye Ear, Nose and Throat E H Cary, Dallas Tex —p 62
Team Work in Practice of Otolaryngology J A Stucky Lexington Ky —p 65

Sanitary Social Service—With more syphilis now in this country than tuberculosis, with blind asylums filled with children as a result of gonorrhea, with women unsexed and their nervous systems shattered as the result of gonorrhea usually contracted from their husbands, with paresis which a hundred years ago was a medical curiosity but which is now filling insane hospitals with cases of locomotor ataxia and cerebrospinal syphilis constituting a great part of the work of the modern neurologist, is it not time, asks Board, that the doctor the lawyer the minister the teacher, the Women's Federation and the legislative bodies awake to the appalling facts of this situation and begin in a rational, thorough manner the eradication of venereal disease?

New Operation for Suspension of Uterus—DuBose describes his method as follows A linen or silk thread, on a full curved needle is carried through the broad ligament as a running stitch close to and immediately underneath the round ligament beginning at the internal abdominal ring carried across the fundus of the uterus engaging superficially under the peritoneal coat passing underneath the opposite round ligament until the other internal ring is reached The needle is unthreaded and a ligature carrier is passed through the aponeurosis of the rectus muscle about one inch from the abdominal incision and on a level with the internal abdominal ring through the musculature of the anterior abdominal wall until it emerges from the parietal peritoneum at the internal abdominal ring The linen suture is threaded on the carrier and drawn through the abdominal wall The same technic is carried out on the opposite side Then both ends of the thread are caught and the uterus is pulled up into the desired position Two hemostats are applied to the thread, one on either side where it emerges from the aponeurosis of the rectus muscle The peritoneum is then closed the aponeurosis of the rectus muscle is sutured and while the forceps are still in position the linen suspension thread is tied The placing of the forceps as described prevents the drawing too tightly on the suspension suture which would bring the uterus too far forward and possibly so narrow the space between the uterus and abdominal wall as to result in hernia or obstruction The hemostats are removed after the tying of the suspension suture The closure of the abdominal skin incision is then completed

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FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

Jan 10 1920 **1** No 3080

Surgical Aspect of Spinal Tumors P Sargent —p 38
Public Health versus The State B G M Baskett —p 40
Scleroderma Two Cases F H Barendt —p 44
*Meningitis Treated by Intrathecal Injections of Patient's Blood Serum R Waterhouse —p 45
Forgetting Psychologic Repression A Carver —p 46

Surgical Aspect of Spinal Tumors—Twenty-seven cases of true neoplasm of one sort or another associated with cord symptoms are analyzed by Sargent Fifteen were cases of encapsulated intrathecal extramedullary tumors, all benign except one a fibrosarcoma In no case was the tumor situated above the fifth cervical or below the eleventh thoracic segment The tumors were enucleated Of these patients six are (or when last heard of were) doing their full ordinary work one patient, 77 years of age is in perfect health and vigor and the other four are so far recovered that they may reasonably be regarded as successful cases Of the four unsuccessful results one (whose paralysis had existed for nine years before operation) remains virtually in statu quo five and one half years after removal of the tumor The remaining three patients died In twelve of the twenty seven cases the tumors were of a malignant character

They were intrathecal extramedullary intramedullary and extrathecal In none of the twelve cases of malignant growth in this series was the exact nature of the case diagnosed before operation The fact that the cord was being subjected to an increasing degree of compression led in each instance to the performance of an exploratory laminectomy and in all but one the diagnosis of tumor was made before operation (one was thought to be a tuberculous caries), in all, too the segmental level of the compression was correctly ascertained before operation But in no instance could the exact position with relation to the cord and membranes or the nature of the tumor be foretold The operations were therefore primarily of an exploratory character Two patients, one with a high cervical intramedullary tumor and the other with a sarcoma of bone in the upper dorsal region died within a few hours of the operation Of the remaining ten patients three were not benefited seven were benefited to a variable degree One patient lived seven years after operation and one lived six and one-half years after operation Others were lost to further observation

Autoserumtherapy in Meningitis—Waterhouse s patient had cerebrospinal meningitis The symptoms became aggravated and finally 20 c c of *the patient s own blood serum* were injected into the subarachnoid space by lumbar puncture after removal of the same quantity of cerebrospinal fluid This procedure was repeated on the three following days with 12 c c of serum and on the fifth day 5 c c of serum were injected Improvement set in from the time of the first injection and convalescence was rapid

Jan 17 1920 2 No 3081

Treatment and Management of Diseases Due to Deficiency of Diet Scurvy and Beri Beri W H Willcox—p 73
Aims and Methods of Graduate Study R Rolleston—p 77
Uses of Free Transplants of Fascia Lata in Surgery G G Turner —p 79
*Acute Abdominal Cases J L Stretton—p 80

Acute Abdominal Cases—Stretton reports a case of pedunculated polypoid adenoma attached to the posterior wall of the stomach about 1 inch inside the pyloric orifice The tumor was removed The patient made an uneventful recovery A second case was one of large hemorrhage into the wall of the cecum between the muscular and mucous coats The result was what appeared to be a large cyst During the appendectomy which was performed at the same time the cyst burst and nearly two pints of blood escaped The cause of the hemorrhage is believed to have been a strain endured during the moving of some heavy objects The third case was one of ovarian cyst which contained 6½ gallons of fluid

Dublin Journal of Medical Science

December 1919 No 576

*Cause of Eclampsia H Tweedy—p 225
*Case of Congenital Syphilis J Moore—p 229

Cause of Eclampsia.—The basis of Tweedy s theory is that ordinary food becomes poisonous during pregnancy and when in this condition it gives rise to toxemia and eclampsia

Congenital Syphilis—Moore cites the case of a girl aged 12 years the victim of congenital syphilis who was treated successfully with Donovan s solution (liquoris arseni et hydrargyri iodidi 8 c.c syrupi aromatici 24 c c aquae 210 c c) one-half ounce taken three times daily after meals He says in these days of salvarsan neo-salvarsan kharsivan soamin and other organic compounds too numerous to mention and of the combined salvarsan and mercurial treatment of syphilis we are perhaps too apt to forget older and no less effective means of combating and defeating the spirochete

Edinburgh Medical Journal

January 1920 24 No 1

Influence of Edinburgh on McGill University J Meakin—p 5
Binet Scale for the Blind W B Drummond—p 16
Beri Beri Among Chinese in France A R Leggate—p 32

Beriberi—Two hundred and sixty nine cases were observed by Leggate Of these 200 patients showed edema of the legs and body forty six of these showed no other symptom One hundred and eighty-three had loss of deep reflexes and of these seven had no other symptom One hundred and fifty-five had paresthesia nine of these without any other symptom Inability to rise from a squatting position without the aid of the hands or other assistance was a striking symptom in some of the cases In the dry type of case it was the rule—66 per cent in the wet type it was the exception—6.5 per cent When the edema was marked Leggate used purgatives A saturated solution of magnesium sulphate with 15 minims of dilute sulphuric acid to the ounce of solution was his favorite An important point in the treatment emphasized by him is to discontinue the polished rice diet and to administer eggs beans yeast and peas

Glasgow Medical Journal

January 1920 11 N S

*Prenatal Tuberculosis T W Allan—p 1
*Is Fat Starvation a Causal Factor in Production of Rickets? H S Hutchison—p 8
Sores Analogous to Veld Sores and Barcoo Rot Appearing Among Soldiers Working in Blue Clay and in Chalk D D Logan—p 1

Prenatal Tuberculosis.—Allan defends the proposition that a child may be born tuberculous in fact he believes that *antenatal tuberculosis is more common than is generally supposed*

Fat Starvation as Cause of Rickets—Hutchison s observations lead him to the belief that in rickets there is no fat starvation and that the excessive loss of calcium in this condition is not brought about through the agency of fat This conclusion is supported by the fact that the average daily excretion of soaps in rickets was 2.2 gm as compared with 2.5 gm. in health Fat could only remove calcium as an insoluble soap and as there is no increase in soaps in rickets there is evidently no connection between the calcium loss in rickets and the fat excretion

Journal of Tropical Medicine and Hygiene, London

Jan 1 1920 23 No 1

Bronchomoniliasis in Anglo Egyptian Sudan and Egypt A J Chalmers—p 1
Vibriothrix Zeylanica (Castellani) L. Anigstein—p 7

Lancet, London

Jan 10 1920 1 No 5028

Surgery of Heart C Ballance To be concluded—p 7
Malaria in Egyptian Expeditionary Force P Manson Bahr—p 79
Diverticulitis W H M Telling—p 85
*Feeding Infants on Dried Milk V Borland—p 89
*Means of Lessening or Eliminating Alimentary Toxemia R Chetham Strode and J D Benjafield—p 91
Paratyphoid B Group H Schutze—p 93

Feeding Infants on Dried Milk.—Borland suggests that it would be an infinitely better plan to feed a baby in relation to its weight than by calculating quantities of feeds according to age alone This method has produced very satisfactory results in Willesden where it has now been practiced for more than two years The present scale is based chiefly on a full cream dried milk which has been modified to resemble human milk but others not so modified have answered satisfactorily when given according to scale The investigation was carried out primarily on sixty nine babies of ages ranging from 3 weeks to 8½ months The smallest feed which produced a satisfactory gain the baby otherwise being in good health was chosen from the clinic cards and noted In this way 188 feeds at various weights were obtained It has been Borland s practice to arrange breast feeding at intervals of three hours three and one half hours and four hours according to the age of the child and the progress made The four hourly intervals are begun as early as possible. In the case of the three hourly intervals the number of feeds given in the twenty four hours is six in three and one-half hourly intervals and in four hourly intervals five feeds are given daily It was found that by adding the number 9 to the weight if below 7 pounds and the number 10 to the weight from 7 to 1[illegible] ive the required number of level teaspo[illegible] to be given in twenty four hours was o[illegible] are given

Eliminating Alimentary Toxemia.—Assuming that a lactic acid fermentation in the large intestine is the condition to be aimed at in the control of an alimentary toxemia, Strode and Benjafield administer the carbohydrates in the form of coarse uncrushed oatmeal. This may be taken raw or cooked sufficiently to soften the outside of the grain, only leaving behind a hard core. The result is that the partially digested grain reaches the large intestine in the form of carbohydrate. The center of the grain is composed of unaltered starch, while the outer layers which have been subjected to the digestive action of the juices of the mouth, stomach and small intestine are composed of simpler molecules, the disaccharids and hexoses. Both these latter can rapidly be converted into lactic acid and carbon dioxid by a suitable bacterial flora. One of the authors has been combining this course of treatment with the ordinary symptomatic methods in his practice for the last fifteen years. Failures have been met with, but they have all been failures in that the lactic acid fermentation could not be obtained. In all cases where this fermentation has been established the condition of the patient has been materially improved. Cases are cited.

Quarterly Journal of Medicine, London

January 1920 **13** No 50

- *Cases of Hematuria of Unusual Origin T I Bennett and C H S Frankau.—p 105.
- *Action of Chlorin, Etc, on Bronchi J A Gunn.—p 121.
- Effects of Multiple Embolism of Pulmonary Arterioles J S Dunn.—p 129.
- *Unilateral Alterations in Blood Pressure Caused by Unilateral Pathologic Conditions. The Differential Blood Pressure Sign E F Cyriax.—p 148.
- Numerical Measurement of Dyspnea G H Hunt and D Dufton.—p 165.
- *Treatment of Chronic Cases of Gas Poisoning by Continuous Oxygen Administration in Chamber J Barcroft and D Dufton.—p 179.
- Mustard Gas Poisoning C M Wilson and J M Mackintosh.—p 201.

Hematuria of Unusual Origin.—In the cases reported by Frankau the onset was usually sudden, with fever rising to 100 or 102 F. The patient complained of pains in the shins and along the radial border of the forearms; headache was slight; there were often slight pains in the back. The respiratory, circulatory and alimentary systems showed only those changes which are common to all mild febrile diseases. In one case the headache was so severe and pain in the spine so marked that meningitis could not be excluded on admission. A lumbar puncture was performed and a few drops of normal cerebrospinal fluid were collected, but in no other case were there symptoms or signs of any involvement of the nervous system. Sometimes on the first day, invariably within a few days, there was marked hematuria; at the same time a slight dysuria was added to the other symptoms. In several cases it was the hematuria alone that led the patient to seek medical aid. After a few days the hematuria disappeared, although microscopically disintegrated red cells, pus cells and epithelial debris were still to be found in the urine. But the symptoms persisted; lumbar pain and dysuria became more prominent, and the shin pains were often sufficient to prevent sleep. A labial herpes was observed several times on about the fifth day. The initial temperature fell to normal but rose again after at most a few days. Often there were sharp relapses such as are commonly seen in cases of trench fever; in other cases the pyrexia developed into a hectic type with morning remissions.

Action of Chlorin on Bronchi.—Generally the results of experiments with chlorin showed that inhalation of 1: 5,000 up to 1: 1,000 produces an increased rate of respiration with a transient bronchoconstriction. This bronchoconstriction Gunn believes is produced reflexly by the first contact of the irritant vapor with the bronchial mucous membrane. It lasts such a short time that therapeutic measures to combat it would be unavailing. A subsequent sudden increase in the concentration of the gas produces thereafter an apparent slight and gradual bronchoconstriction, but from histologic observations it appears probable that this is due rather to edema of the bronchial mucous membrane than to contraction of the bronchial muscle.

Unilateral Alterations in Blood Pressure.—According to Cyriax the differential blood pressure sign (differences between the readings in the two arms) is nearly always present in unilateral or bilaterally unequal traumatisms or operations. As regards the maximum pressures, differences of 10 mm are found in about 83 per cent and of 20 mm or over in about 12 per cent of all cases. As regards the minimum pressures similar differences are found respectively in 81 per cent and 20 per cent.

Treatment of Chronic Cases of Gas Poisoning.—Twenty-six patients were treated by the continuous administration of oxygen. The patients were placed in chambers in which the percentage of oxygen aimed at, and usually maintained, was between 40 and 50. The usual term of residence was five days, sixteen or seventeen hours of each day being spent in the chambers. The night was always spent in them. The effect on the red cell count was as follows: if the red cell count was markedly higher than 5 millions, it was reduced by residence in oxygen, usually to just about that figure; if the red count, as was often the case, especially with mustard gas, was not raised above 5 millions, residence in oxygen did not alter it. The subsequent history of cases differs: in some the red count tends to rise, in others it remains nearly normal at the end of two and one-half months. As the red count fell there was usually a fall—but a much slighter one—in the hemoglobin. The color index therefore rose. An almost constant sign in the gassed cases studied has been a failure on the part of the pulse to return normally after exercise to its resting rate. This condition has been benefited by the oxygen treatment in nearly all cases, and in about half it was brought to—or almost to—the normal condition. Of fourteen patients treated six suffered from nocturnal attacks of dyspnea. None of these had attacks in the chamber; three appeared to be cured permanently and two others were permanently benefited. The patients all stated that they were able to walk faster and with less distress than before the treatment. In the second series of cases a definite test for dyspnea was introduced, in which the opinion of the patients was not involved. Of the six patients thoroughly tested four increased the quantity of work which they could do with a given degree of breathlessness by over 20 per cent and two others by over 10 per cent.

South African Medical Record, Cape Town

Dec 13 1919 **17** No 23

- Syphilis B Bernstein

Bulletin de l'Academie de Medecine, Paris

Dec 9 1919 **82** No 39

- *Alcoholism and the Thyroid Le Clerc.—p 394.
- Treatment of Vincent's Angina Capitan.—p 396.
- Hospital Ships Chevalier.—p 399.
- Dual Nature of Farcy G Chenier.—p 403.

Alcoholism and Thyroid Agenesia.—Le Clerc reports three cases of defective development of the thyroid in children of drinking fathers. One patient was a man of 30 with myxedema, one a girl of 14, a mongolian imbecile, and the third a child with myxedema. The older children in the families seemed to have escaped the taint, but the younger ones all showed the effect of it more or less. He has never encountered any other cases of thyroid agenesia.

Treatment of Vincent's Angina.—Capitan has treated 200 cases of Vincent's angina with intramuscular injection of 6 c.c. colloidal arsenic and states that it never failed to sterilize the lesions in twenty-four or forty-eight hours, and the cure was complete in four or five days. A second injection was only exceptionally required. Local treatment is not absolutely necessary.

Hospital Ships.—Chevalier is inspector general of the medical department of the navy, and he here describes the work of the various hospital ships bringing the wounded and sick from Flanders and Serbia and from the Mediterranean fronts. He urges that in building vessels for the merchant marine some should be designed so they could be rapidly transformed into hospital ships at need, the hospital equipment kept in readiness at some convenient point. (See also Paris Letter, p 189.)

Dec 23 1919 82 No 41

*Food Value of Different Grains C Achard and L Gaillard —p 500
*Prophylaxis of Bovine Tuberculosis J Lignieres —p 505
Tincture of Box in Intermittent Fevers S A de Vevey —p 508

Value of Flours—Achard reports that to the usual food of rabbits were added 50 gm of different kinds of flour Six sets of five rabbits each were thus fed separately on wheat rye, barley, corn or rice flour over long periods No difference in weight was apparent in any of the sets fed on different flours and no difference in the mineral content of the bones The only practical conclusion from the research is that the mineral content of the food does not decide the mineral content of the organs and skeleton The ash was as large in the animals fed on rice as with any of the other flours, although rice has less than a third as much mineral elements as barley and rye

Prophylaxis of Bovine Tuberculosis—Lignieres would sweep away all indemnities, etc, for tuberculous cattle and place the loss squarely on the shoulders of the proprietor This, he declares, is the only effectual way to stamp out bovine tuberculosis by making the loss from it so excessive that the proprietors will be forced to take steps to protect their herds against it According to the present measures, the proprietors have comparatively little personal interest in stamping out the infection When they find that unless they do this their losses will be excessive a new order of things will be inaugurated Three things are necessary for this (1) The nullification of the sale of any animal found to be tuberculous The animal to be returned immediately to the vendor, the latter to pay the expenses of transportation and refund the purchase money, (2) The public health service to investigate the herd from which the tuberculous animal came and brand all tuberculous cattle found destined for any purpose except slaughtering The vendor to stand the partial or total loss when meat is confiscated on account of tuberculous lesions (3) No indemnity to be paid to the owner of the cattle except when an animal is ordered to be slaughtered on account of tuberculosis of the mammary glands, or when a mistake has been made in the diagnosis

With these regulations in force he states, the tuberculous animal would have to be kept at home, and hence could not start new foci It would have very little commercial value as it could not be sold for anything except butchering and not even for this if the disease is far advanced The financial loss would be so great that the proprietors would spare no pains to protect themselves This would transfer the fight against bovine tuberculosis from the authorities to private interests instead of the latter hampering and seeking to circumvent the authorities in the task The proprietor would not have to make any declaration and would not be molested by any one so long as he kept his tuberculous cattle at home He can call on authorities to help him weed out the tuberculous animals, and these he can keep separate from the others and send to the slaughter house at his convenience as the years pass while the rest of his herd is kept safe from infection with tuberculosis He can take his own time and means to eradicate tuberculosis from his herd and none of his tuberculous cattle need be branded if he does not attempt to sell them for any purpose except butchering This prophylaxis based on private interests will act everywhere throughout the country at once and will be kept up until bovine tuberculosis has disappeared Lignieres urges legislators to pass a law nullifying the sale of a tuberculous animal for any purpose except butchering and providing for branding as described above

Dec 30 1919 82 No 42

*Ligation of Carotid for Traumatic Exophthalmos A de Lapersonne and Sendral —p 515
*Hospital Hygiene and Influenza A Lesage —p 5[illegible]
Malaria and Dysentery Carriers Among the Demobilized F Barbary —p 524

Ligation of Carotid for Traumatic Exophthalmos—Slight exophthalmos was evident two days after the railroad accident fracturing the base of the skull and neuroparalytic keratitis, ptosis and intolerable subjective disturbance were combated by de Lapersonne with ligation of the carotid The thrill and murmur disappeared but the subjective chug-chug persisted and the left common carotid was ligated likewise after having been prepared by several weeks of training of the vertebral arteries to prepare them to substitute the ligated artery For this the carotid was cautiously compressed with the fingers At first this induced dizziness jerking and profound asthenia for several hours but finally it could be borne for ten minutes at a time so that a ligature was thrown around the left common carotid also eight months after the accident and five months after the first ligature For the first three days there was a feeling as of ice in the head but all the symptoms soon became attenuated and the young man was much pleased with the outcome Twenty-two months later he still has frequent headaches but is able to read and write without difficulty Bending over brings on severe dizziness This symptom is marked in another case of ligation of both carotids Both of the men are satisfied with their physical condition but complain of impairment of the memory and early mental fatigue The right exophthalmos in another man had developed seven months after a war wound and at the twenty-third month had suddenly become aggravated threatening the loss of the eye Ligation of the right carotid put an end to all disturbances at once and permanently

Hospital Hygiene—Lesage cites experiences—especially with influenza—which confirm anew that individual isolation is the base of all hygiene in hospitals

Journal de Medecine de Bordeaux

Dec 25 1919 90 No 24

Substitution Compensation and Vicarious Action in the Symptomatology after Injury of Nerves A Litres —p 535 Concn
*Reverdin Skin Flaps W Dubreuilh —p 545

Technic for Reverdin Skin Flaps—Instead of using a razor, as for Thiersch flaps, Dubreuilh lifts up the skin with a curved needle held at a right angle in hemostatic forceps with the tip curving up He pricks the skin with this tip and as the skin is thus lifted up he cuts out the lifted up portion with a sharp bistoury The needle thus has a small disk of skin impaled on its tip and this disk is transferred to the defect to be covered By this means quite a large defect can be rapidly covered with forty or fifty of these disks about 2 mm in diameter, larger than this it is hard to detach the scrap and smaller than this the scrap may be lost when cut out No anesthesia is necessary the patient feels merely the prick of the needle He applies the grafts about 4 or 8 mm apart and takes them from nearby When all are in place he covers the surface with numbers of small pieces of gauze a few centimeters wide placed individually watering with artificial serum and presses them down with his hand The gauze dressing is changed in forty-eight hours but the lowest layer of gauze can be left untouched watering copiously with physiologic serum The flaps take hold by the sixth or seventh day They heal as cicatricial tissue with the danger of retraction but they accomplish the healing in cases in which otherwise it would take much longer or be impossible These minute flaps can be taken so easily and leave such insignificant gaps in the skin that even if the procedure fails not much harm has been done In one case a roentgen dermatitis on the back as large as a plate had shown no tendency to heal during the year but applying these needle grafts to the more favorable points in turn led to the complete healing of the lesion in two months The lesion seems to feel a stimulating action from the grafts even at points where the latter do not touch

Medecine, Paris

December 1919 1 No 3

[illegible] in Hygiene and Infectious Dis[illegible] I Ta[illegible] —p 1[illegible]
Peritonitis in Typhoid I Rathery — 111
Diphtheria Bacilli Carrier I Arloing —p 1[illegible]9 and Stevenin —p [illegible]
Beriberi in France H Roger —p 1[illegible]1
Lethargic Encephalitis I Halbron —p 155
Gonococcus Count as Guide to Treatment L [illegible] —p 1[illegible]
Smallpox in France M C[illegible]lhat —p 16[illegible]
Polyvalent Lipovaccine [illegible] Typhoid A Se[illegible] [illegible]

Recent Progress in Infectious Diseases—Tanon specifies among other progress the knowledge of the complications of typhus, and the favorable results reported by a few workers with serotherapy Among them are Nicolle and Blaizot with an antiserum from horses that had been injected with emulsions of spleen and suprarenals from inoculated guinea-pigs Monvoisin during his war imprisonment treated typhus by intravenous injection of 1 or 2 c c of convalescents' serum In his experience this reduced the mortality from 30 to 10 34 per cent The best results were obtained with blood drawn the eighth day The injections seemed harmless, and could be repeated if necessary Lebailly and Poisson arrested an incipient epidemic by inoculating the thirty four contacts by injecting subcutaneously 1 c c of horse serum or convalescent s serum, and 1 c c of serum from a guinea pig developing the disease

Peritonitis in Typhoid—Rathery refers to peritonitis from propagation without perforation and reiterates that the slightest suggestion of peritonitis calls for complete immobilization with ice to large areas of the abdomen, and absolute fasting, nothing should be allowed except subcutaneous injections of artificial serum The slightest movement should be forbidden and the chilling of the abdomen should be extensive and constant

Treatment of Diphtheria Bacilli Carriers—Arloing expatiates on the effectual sterilization of the throat realized with insufflation of desiccated bactericidal antiserum prepared by injecting the horse simultaneously with diphtheric toxin and the bodies of the bacilli The desiccated antitoxin is mixed with an inert powder and with gum tragacanth to make it adhere to the tissues These insufflations are given three or four times a day, between meals after gargling with an antiseptic solution The nozzles of the atomizer are interchangeable and individual In three weeks and sometimes earlier the diphtheria bacilli disappeared from the throat He insists that this treatment is absolutely harmless and rapidly effectual It is important to examine for bacilli anew a week after they have apparently permanently disappeared, as it is possible that they have been merely temporarily checked in their development Stevenin comments on the *misleading* conclusions liable from the intermittency of positive findings in the smears He has had good results recently with insufflation of desiccated *serum antimicrobien* insufflated three or four times a day in the pharynx and nasal fossae Labbe and Canat have also reported good results with it

The Gonococcus Count as Guide to Treatment—Ramond *reports* the differential count of the cells and cocci in the urethral secretions from nine patients repeatedly examined Nothing was *found* to throw light on the prognosis or treatment except that the gonococcus curve seems to indicate a partial local immunization in the course of the third week This suggests that it might be well to wait for the end of the third week before giving balsamics At this time they might usefully supplement the partial immunization going on and thus get a chance for effectual action

Presse Medicale, Paris

Dec 6 1919 **27** No 74

Present Status of Our Knowledge of Ferments H Roger —p 741
Fracture of the Malleolus F Juvara (Bucharest) —p 74
Diabetes Insipidus and Its Pituitary Origin P Pagniez —p 746

The Ferments—In this opening lecture of his course on experimental and comparative pathology Roger reviews the data accumulated *in respect to ferments* and suggests that further study of those that preside over reductions and oxidations may explain the origin of many pathologic conditions and the mechanism of death

Reconstruction of Fractured Malleolus—Juvara gives illustrations showing the technic for osteosynthesis with fracture of the malleolus The reconstruction of the bone in its normal outline is accomplished by driving a long, slender nail from below slanting upward, far into the bone to hold the parts in normal apposition Or two nails may be driven in close together the tips diverging a little One set of roentgenograms shows nails driven into both malleoli the fourth day after the fracture *The nails were pulled out the* twenty-second day, and the cure was complete the thirtieth In another case illustrated the nail was driven through the skin into the internal malleolus two days after the fracture, and it had healed completely by the twenty-fourth day Both these patients were men In other cases he drove two nails horizontally through the malleolus into the tibia or axially into the fibula from below, or else merely tied a wire around the fractured bone after fitting the parts into place One illustration shows the foot like a big pin-cushion with the nails thus driven into the bone No immobilizing apparatus is required and the foot can be *moved from the second day*, and this should be done as much as possible thereafter The disappearance of the pain is the result accomplished first by the osteosynthesis The first dressing is changed the second or third day as blood oozes from the nail holes The secret of success is to reconstruct the bone in this way at once, as an actual emergency operation immediately after the fracture This prevents swelling of the region, and the pains disappear after the osteosynthesis He uses ordinary iron nails 1 mm in diameter and 7 or 8 cm long The spongy bone of the malleolus takes the nails easily Sometimes nailing the internal malleolus in this way *is sufficient to hold* the external in place without further intervention The internal malleolus is exposed by a U incision, the base above, and the flap is turned back on the leg The internal saphenous vein skirts *the anterior margin of the malleolus and* injury of this must be guarded against

Pituitary Diabetes—Pagniez analyzes five recent works on this subject published in Spain, Italy, France and this country Many points are still obscure, he remarks, but two things seem to be certain, namely, that pituitary treatment has an immediate and specific inhibiting action on essential polyuria in man and that any traumatic irritation of the nerve regions adjacent to the pituitary entails polyuria In pituitary treatment we have now a remedy of considerable efficacy for the polyuria of diabetes insipidus, although its action is transient

Dec 20 1919 **27**, No 78

Gas Cysts in the Abdomen M Letulle —p 781
Peripheral Vasoconstriction in Shock R Ducastaing —p 782
Cultivation of Malaria Hematozoon M Chambelland —p 783
Acute Appendicitis C Lenormant —p 784

Gas Cysts of Intestine and Peritoneum—Letulle concludes his illustrated description of intra-abdominal pneumatosis by stating that it is a complication of chronic obliterating lymphangitis and that a laparotomy may lead to resorption of the gas and total subsidence of all the cysts This has occurred repeatedly when compression of stomach or bowel by some cyst had made a laparotomy imperative

Peripheral Vasoconstriction in Shock—Among other arguments in favor of peripheral vasoconstriction as an important factor in shock Ducastaing cites two cases of shock in which the slow weak or absolutely imperceptible pulse became normal under the action of amyl nitrite

Revue Neurologique, Paris

November 1919 **26**, No 11

*Facial Diplegia A de Castro (Rio de Janeiro) —p 801
Bernard Horner Syndrome from Shell Shock Leri and *Thiers* —p *808*
Reflex Adduction of Eyeball Id —p 810
Stunted Pyramidal Cerebellar System D F Paulian (Bucharest) —p 815
Extraction of Bullet in Lateral Ventricle G L Regard —p 818
Hypertrophic Neuritis M *Dide and Courjon* —p *825*
*Achondroplasia in Greek Art A Porot —p 833

Facial Diplegia—De Castro remarks that in his service at Rio a large number of cases of facial diplegia are encountered every year The paralysis is rapidly progressive, and it may take days or months for it to subside It may subside completely on one side while persisting on the other When accompanying polyneuritis, the facial paralysis usually is bilateral and persists longest Contracture is rare and seldom affects both sides A series of illustrations are given of three typical cases

Reflex Adduction of Eyeball—Leri and Thiers give illustrations of a case in which any peripheral stimulus such as touching the mucosa of the ear with cold water or tickling the mucosa of the nose, induces at once a pronounced deviation inward of the eyeball on that side This phenomenon was marked in two patients with other symptoms indicating injury of the labyrinth, and was negative in twenty-two other neurologic patients It may possibly aid in detecting an upset in the muscle balance from excessive functioning of the third pair and weakness in its physiologic antagonists, the abducens or sympathetic

Defective Development of Pyramidal-Cerebellar System—A woman of 31 and her brother 26 both present evidence of arrested development of the pyramidal system and afferent cerebellar tracts The disturbances from this cause did not become apparent until about the age of 20 in each There was a history of spinal cord disease in an uncle and the mother had unmistakable signs of syphilis The cases resemble those published as cerebellar ataxia but Paulian prefers to label them familial pyramido-cerebellar dysgenesia, emphasizing also the inherited taint

Extraction of Bullet in Lateral Ventricle—Regard says that the rarity of the localization of the bullet in the lateral cerebral ventricle and its curious mobility are not so interesting in this case as the primary displacement of the projectile the means taken to complete the diagnosis, and the successful extraction The bullet entered at the posterior-inferior end of the left second parietal convolution but there was no word blindness which tends to disprove the location of this special center at this point The bullet probably did not land in the ventricle but was pushed into it by the strange expulsive force exerted by the brain tissue for foreign bodies partially embedded in it Intense headache somnolency and mental confusion were the symptoms none pathognomonic, but roentgen examination with the head in different positions showed a displacement of 6 cm of the bullet It was easily extracted from the rear after it had been made to drop into the occipital extension of the ventricle and a large flap had been cut in the skull The whole procedure proved so simple and easy that Regard says he would feel justified in attempting it in cases of apoplexy when hemorrhage into the ventricle is threatening to prove fatal It could be done at one sitting, but he did not complete the operation till the following day as he wished to be certain of his asepsis

Hypertrophic Neuritis in Adults—Dide and Courjon report five cases with illustrations The extreme atrophy of muscles began in the hands and arms in five personal cases and in four published by Long and by Hoffmann In thirteen known cases no inherited or familial taint was discoverable In ten cases the onset was between 30 and 40 The disease in adults may assume various types and complicating cerebellar symptoms are rare

Achondroplasia in Greek Art—Porot relates that after the siege of Athens by the Romans 86 B C some of the ships taking the loot from Athens to Rome were wrecked and one of these wrecked ships was discovered a few years ago in the sand bars off Tunis Its cargo of Greek statues etc is now installed in the museum at Bardo Among them are some bronze statuettes of dwarfs which show all the attributes of the achondroplasic type described by Marie The trunk the head and the sexual organs in this type develop normally, but the long bones are stunted and these features are faithfully reproduced in these dancing figures of which illustrations are given

Correspondenz-Blatt fur Schweizer Aerzte, Basel

Dec 18 1919 **49** No 51

*Effect of Pyelitis in Infancy on Kidneys Later in Life E Rhonheimer —p 1929
Functional Capacity of Tendon Sutures J Dubs —p 1938
Venereal Disease in Swiss Army W R Schnyder —p 1952 Cont d

Prognosis of Pyelitis in Infants for Later Life—Rhonheimer has secured information in regard to the later life in 122 cases of pyelonephritis in infants The diagnosis cannot be positive without examination of the urine but the experiences related show that the urine may show pathologic findings for months and even for more than a year when the child seems otherwise to have entirely recovered His examination from one to eight years later demonstrated entirely normal conditions in the urine no recurrence during the interim was known in any instance. This complete healing of the pyelitis in infants is in direct contrast to what is observed with pyelitis in older children In the latter recurrence is so common that some clinicians consider the pyelitis of pregnancy merely the flaring up of the disease dating from childhood He reviews the testimony of pediatrists including Birk's case in which pyelitis at 9 was followed by grave recurrence at 11 but the urine and kidneys seemed to be normal throughout a pregnancy at 18 In Rhonheimer's 122 cases about 23 per cent were boys and necropsy showed severe changes in the kidneys and only slight lesions in the bladder This testifies that infection is blood-borne in infants, while in older children it is usually ascending infection After infancy fully 90 per cent of pyelitis patients are females

Functional Prognosis of Tendon Sutures—It has generally been assumed that sutured tendons behave normally thereafter but Dubs in a personal experience with 100 cases and analysis of 375 cases on record of injury of tendons in the arm requiring suture has found that the ultimate outcome is far from favorable In over 43 per cent the cause of the interference with function was adhesion to surrounding tissues, infection and suppuration were responsible only in 11 3 per cent The outcome was poorest in the cases in which secondary suture had been done and best when the suturing was done early Even with primary suture the outcome was bad in 50 per cent of the extensor tendons and in 10 per cent of the flexors The earlier the suture the less danger of adhesions forming The surgeon should make every effort to ward off adhesions, as the free play of the tendon is indispensable for proper functioning Too little attention has been paid to this point hitherto

Policlinico, Rome

November 1919 **26** Medical Section No **11**

*Hemolytic Splenomegaly P Biffis —p 393 Idem Livio Losio —p 410
*Pernicious Anemia F Marcora —p 424

Hemolytic Splenomegaly—Biffis reports eight cases of familial chronic jaundice with enlargement of the spleen but no bile pigments in the urine The jaundice did not manifest itself until between 22 and 25 The cases were all in several generations in one family The children present all the symptoms except the jaundice, this will probably appear as they grow up Removal of the spleen is always followed by improvement but the abnormal fragility of the blood corpuscles persists unmodified Only one case is known (Micheli) in which the corpuscles regained normal stability but even in this case reexamination several years later showed that the fragility of the corpuscles had returned The jaundice is no index of the gravity of the condition In the familial or congenital form the jaundice is usuall pronounced while the other symptoms are often mild and there is little or no anemia Biffis and Ceconi have previously published seven cases of the acquired type and have recently encountered the familial cases here described and another set in a second family The urobilinuria attacks of pain in the right hypochondrium and paroxysmal intensity of the jaundice which had begun at 25, all pointed to the acquired type in the case first seen but investigation revealed seven other cases in the man's family tree, including his two children

Splenectomy for Hemolytic Jaundice—Losio reports a case of chronic hemolytic jaundice in a woman of 22 whose splenomegaly was first noted at the age of 12 He removed the spleen at 22 and the disease seemed to be cured for a time but then all the symptoms gradually returned The vessels in the spleen showed peculiar complex changes for which he knows of no precedent among the other changes was a tendency to calcification of the middle coat He remarks in conclusion that not only is there no criterion to distinguish the acquired from the congenital type but a

Recent Progress in Infectious Diseases—Timon specifies among other progress the knowledge of the complications of typhus, and the favorable results reported by a few workers with serotherapy Among them are Nicolle and Blaizot with an antiserum from horses that had been injected with emulsions of spleen and suprarenals from inoculated guinea-pigs Monvoisin during his war imprisonment treated typhus by intravenous injection of 1 or 2 c c of convalescents' serum In his experience this reduced the mortality from 30 to 10 34 per cent The best results were obtained with blood drawn the eighth day The injections seemed harmless, and could be repeated if necessary Lebailly and Poisson arrested an incipient epidemic by inoculating the thirty-four contacts by injecting subcutaneously 1 c c of horse serum or convalescent's serum, and 1 c c of serum from a guinea pig developing the disease

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Presse Medicale, Paris

Dec 6 1919 27 No 74

Present Status of Our Knowledge of Ferments H Roger p 741
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Dec 20 1919 27, No 78

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Cultivation of Malaria Hematozoon M Chambelland —p 783
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Gas Cysts of Intestine and Peritoneum—Letulle concludes his illustrated description of intra abdominal pneumatosis by stating that it is a complication of chronic obliterating lymphangitis and that a laparotomy may lead to resorption of the gas and total subsidence of all the cysts This has occurred repeatedly when compression of stomach or bowel by some cyst had made a laparotomy imperative

Peripheral Vasoconstriction in Shock—Among other arguments in favor of peripheral vasoconstriction as an important factor in shock Ducastaing cites two cases of shock in which the slow weak or absolutely imperceptible pulse became normal under the action of amyl nitrite

Revue Neurologique, Paris

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Facial Diplegia A de Castro (Rio de Janeiro) —p 801
Bernard-Horner Syndrome from Shell Shock Leri and Thiers —p 808
Reflex Abduction of Eyeball Id —p 810
Stunted Pyramidal Cerebellar System D F Paulian (Bucharest) —p 815
Extraction of Bullet in Lateral Ventricle G L Regard —p 818
Hypertrophic Neuritis M Dide and Courjon —p 825
Achondroplasia in Greek Art A Porot —p 833

Facial Diplegia—De Castro remarks that in his service at Rio a large number of cases of facial diplegia are encountered every year The paralysis is rapidly progressive, and it may take days or months for it to subside It may subside completely on one side while persisting on the other When accompanying polyneuritis the facial paralysis usually is bilateral and persists longest Contracture is rare and seldom affects both sides A series of illustrations are given of three typical cases

some cases, it may be impossible to distinguish between primary and secondary jaundice

Pernicious Anemia and Typhoid—Marcori gives the minute clinical and necropsy details in a case of progressive pernicious anemia in which typhoid bacilli were found in the blood marrow and spleen, although there was nothing in the findings elsewhere or in the antecedents to suggest typhoid infection The grave anemia had developed insidiously in the course of three or four months, with urobilinuria, and death about the sixth month A colored plate shows the blood findings

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Total Necrosis of Clavicle C Aperlo—p 4[illegible]
*Sarcoma of Frontal Sinus I Calicetti—p 353
Modern Technics for Transfusion of Blood A Schi[illegible]—p 69
Pathology of Sweat Gland G I Colombo—p 383

Necrosis of Clavicle—The girl of 7 was scratched in the back of the right hand by the nail of another child in play and a furuncle developed with secondary rapidly acute staphylococcus osteomyelitis of the clavicle compelling its entire removal eight days after the primary scratch

Sarcoma in Frontal Sinus—Calicetti illustrates a case of rapidly growing primary sarcoma originating in the frontal sinus in a soldier As long as the growth was restricted to the sinus it caused absolutely no symptoms When these appeared the growth was already inoperable If discovered or suspected in an early stage it might be well to try an autovaccine as Citelli recommends Calicetti obtained most gratifying results with an autovaccine in a case of sarcoma of the upper jaw He reviews the literature on malignant disease of the frontal sinus

Changes in Sweat Glands—Colombo found severe changes in the sweat glands in patients with nephritis also in tuberculosis and in various chronic intoxications The elimination of toxins through the sweat glands entails these changes in time and he induced them in cats and rats by blocking kidney functioning

Archivos Brasileiros de Medicina, Rio de Janeiro

August 1919 **9** No 8

*Serotherapy of Anemia Sylvio Prado Pastana—p 625
Treatment of Fractures Alipio Santos—p 666

Serotherapy in Anemia—Prado Pastana says that with the Besredka technic it is a simple matter to obtain an antihuman hemolysis serum from rabbits This hemolytic serum as he calls it has a potent stimulating action on the blood-producing centers The blood corpuscles are produced in larger numbers comparatively than the hemoglobin The hemoglobin takes a longer time to approximate normal and it is wise to aid this with iron The principal indication for this treatment is severe aplastic anemias especially when the blood-producing centers seem exhausted and a stimulant is called for The immediate effect surpasses that from administration of iron The best results are observed with minute and well spaced doses 1 c c of the 1 20 antiserum is the preferred dose diluted with 9 c c of physiologic solution and infused into a vein very slowly after the first None of the five patients whose cases are described with minute detail complained of the technic and no trace of anaphylaxis was ever noticed The intervals were from eight to twelve days and only two or three injections were made

Treatment of Fractures—Alipio Santos describes the first case in Brazil treated by what he calls the Anglo-American method that is weight extension applied to the suspended limb He extols the perfect healing and functional outcome

Boletin de Medicina y Cirugia, Guayaquil

October November 1919 **17** No 125 126

Etiology of Yellow Fever H Noguchi—p 139 and 155

Noguchi's Research on Yellow Fever—This is a Spanish translation in full of Noguchi's various publications on the clinical and other features of yellow fever and on the leptospira which he incriminates in the etiology Much of the work was done at the Guayaquil hospital Noguchi's charts and twelve photomicrographs are reproduced

Brazil-Medico, Rio de Janeiro

Nov 8 1919 **33**, No 45

*Pleurisy with Heart Disease Luna Freire—p 353 Begun in No 43 p 357
Epidemic Poliomyelitis in Uruguay V Escardo y Anaya—p 356 Cont n See abstract below

Pleurisy with Heart Disease—Luna Freire has recently encountered three cases of pleural effusion in the left side in persons with heart disease Analysis of these cases and of the literature shows that the heart disease with arterial lesions and with pleural effusion on the left side originates in the aorta and spreads secondarily to the myocardium This suggests that syphilis may be the primary factor The symptoms are the same whatever the origin of the pleurisy, but few think of testing for syphilis and yet this might give the clue for effectual treatment In his three cases chronic aortitis was evident, and one of the men, a physician, succumbed to the progress of the disease, with multiple hemorrhages epistaxis hematemesis and melena In all, the heart was displaced toward the right of the sternum He discusses the reasons why the effusion is generally on the right side with heart disease, while in his three cases the left side only was involved In Beaufume's sixteen cases only one involved the left side The mechanical factors explain the predilection of congestion and edema for the right side but do not explain the pleurisy, infection is required for this The term arterial cardiopathy should be restricted to the cases in which chronic inflammation of the large vessels of the base spreads to invade the myocardium or the valves and syphilis is generally responsible for the inflammation of these large vessels This conception allows a more favorable prognosis

Revista Medica del Uruguay, Montevideo

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*Hemiplegia Consecutive to Influenza F Abente Haedo—p 771
*Epidemic Poliomyelitis in Uruguay V Escardo y Anaya—p 779
Connection Between Syphilis and Tuberculosis E Mariño and J C Mussio Fournier—p 807 In French
Comparative Analysis of French and German Arsphenamin A Frunell—p 812

Hemiplegia After Influenza—Abente's patient is a young man who for a few weeks after influenza presented symptoms of the Millard-Gubler type of hemiplegia By exclusion Abente accepts an infectious arteritis of influenzal origin as probably responsible for the hemiplegia

Epidemic Poliomyelitis in Uruguay—Escardo's address on this subject was presented at the recent International Child Congress He comments in particular on the element of pain which was a feature of the disease during the three epidemics in Uruguay, 1906 1912 and 1916 He mentions further two unpublished cases of cephaloplegia like those described by Figueiras at Rio de Janeiro The two cases were seen ten years ago by de Pena at Montevideo Probably unrecognized poliomyelitis was responsible for the cephaloplegia The child was totally unable to hold up its head and there was also a slight tendency to paralysis These symptoms subsided in about a week in one case, but the infant of 2 years succumbed to asphyxia Escardo adds that serotherapy is being tried at Buenos Aires in poliomyelitis, and the results are quite encouraging

Syphilis and Tuberculosis—Summarized on page 359 when published elsewhere

Berliner klinische Wochenschrift, Berlin

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Paralysis of the Soft Palate after Influenza G Kickhefel—p 967
*Hemostasis with Prostatectomy A Freudenberg—p 967
What the War Has Taught Us About Nutrition K Bornstein—p 968

Local Use of Calcium Chlorid for the Prevention of Serious Hemorrhages in Suprapubic Prostatectomy—After or during suprapubic prostatectomy one of the chief dangers Freudenberg has found lies in the serious hemorrhages that so frequently prove fatal He has however, of late been using a method of prevention that he finds very satisfactory, namely, the local application of a 6 per cent solution of calcium chlorid From ten to twenty minutes before the operation, 100 c c of the solution are injected into the patient's bladder, the contents of which have been removed by catheter Immediately before the skin incision is made, the fluid is withdrawn from the bladder and air is injected After the enucleation of the prostate for which the smallest possible incision in the bladder is made, the resulting cavity is plugged tight with medicated gauze that has been immersed in the calcium chlorid solution Above this a large sized drain is inserted The balance of the cavity of the bladder is likewise plugged with the gauze dipped in the calcium chlorid solution Through the Freyer drain a Nelaton catheter may be inserted and the greater part of the urine drawn off through a tube, thus preventing to a great extent the infiltration of urine into the tissues The abdominal flaps are then sutured above and below close up to the drain Following Freyer s technic the bladder itself is not sutured After twenty four hours the Freyer drain is removed, also the tampon in the upper part of the bladder The tampon in the prostate cavity is not removed for two or three days Caution then is necessary and it may be advisable to use hydrogen dioxid to avoid hemorrhage from mechanical irritation For bladder lavage during the first few days following the operation calcium chlorid should be added by way of precaution Freudenberg has operated in twenty-six cases in this manner without experiencing any serious difficulties from hemorrhages

Deutsche medizinische Wochenschrift, Berlin

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*Nonoperative Treatment of Hemorrhoids I Boas —p 1153
*Regenerative Processes in Man XV Regeneration of Blood Vessels A Bier —p 1155
*Meaning of Term Uremia W H Veil —p 1158
*Pathologic Conditions in Skeleton from Undernutrition A Bohme —p 1160
*Injuries of Middle Meningeal Artery A Salomon —p 1162
Effusion in Peritoneum as Symptom of Intestinal Occlusion A Galambos —p 1163
*Causes of Quincke s Edema H Sieben —p 1164
*Gonococcus Otitis in Nurslings H Putzig —p 1165
*Poisoning by Oil of Eucalyptus P Auerbach —p 1165
Proposed Reforms in Medical Course J Schwalbe —p 1166 Cont d

Radical Nonoperative Cure of Hemorrhoids—After twenty years' experience in treating hemorrhoids Boas finds injections of 96 per cent alcohol the most effectual measure For years he had used injections of phenol (Kelsey s method) with fair success, but the results were often not entirely satisfactory Recurrences were rather frequent The main objections to phenol are its escharotic and toxic effects Boas sought for an injecting medium that was free from these objections, and for four years has been using 96 per cent alcohol with eminent satisfaction He describes his method under three headings (1) preparation of the patient, (2) the treatment proper, and (3) after-treatment The patient must remain in bed during the treatment Boas objects to the ambulant treatment of hemorrhoid patients which he thinks if he is correctly informed is all too prevalent in America By means of the Bier suction glass the hemorrhoids are drawn out of the anus From experience one learns how long and how vigorously the suction must be applied in order to bring forth all the hemorrhoids for it is essential in this method that every nodule should be injected When the operator has thus informed himself as to the number and size of the hemorrhoidal tumors they are returned within the rectum If the hemorrhoids bleed too freely it is well to control the hemorrhage by repeated injections of calcium chlorid On the first day the patient is given a purge After securing a thorough evacuation the bowel is cleansed the next day by means of a soapsuds enema The treatment proper begins with the patient in the knee chest position With the Bier suction glass the hemorrhoidal tumors are now brought well into view With a record syringe of 10 c.c capacity from 2 to 5 c c of 96 per cent alcohol are injected carefully but quickly deep into the hemorrhoids In one of moderate size 2 c c may be injected in the upper half and 2 c c in the lower half In an especially large tumor 5 c c may be required The whole procedure takes only two or three minutes even when the vascular tumors are numerous Occasionally the injections are painful and he now uses a local anesthetic from fifteen to twenty minutes before applying the treatment A slight burning sensation may be felt for a time but there should be ordinarily no further discomfort After the injections the hemorrhoidal mass should if at all possible be returned to the bowel If the mass is large this may entail some difficulty In rare cases it may be necessary to leave a small part of the mass outside of the rectum but this only delays the cure a few days as through gradual necrobiosis the extra-anal portion will slough off The after-treatment is important The patient remains in bed for four days in the dorsal recumbent position and receives during that period only a liquid diet in order to reduce intestinal activity to the minimum On the fourth or fifth day a purgative is given If prolapse of the injected piles does not occur during the first stool it will not usually occur at all so that the patient can then be allowed to resume a normal diet and will soon be able to move about freely The final test applied about a week after the injection consists in using the Bier suction glass again to see if the hemorrhoids are now securely anchored within the rectum Boas has treated fifty-two patients by this method A radical cure was effected in all the cases and there have been no recurrences as yet although in two cases a second injection became necessary The total amount of alcohol injected never exceeded 10 c c

Regenerative Processes in Blood Vessels—As regards transplantation of blood vessels Bier believes that autoplastic transplants are the only ones that can be counted on Various investigators had maintained that homoplastic and heteroplastic transplants or even segments of dead blood vessels would live and conduct the blood stream But the microscope has shown that such transplants suffer the same fate as all other homoplastic and heteroplastic transplants they disintegrate and are absorbed while other surrounding tissues usually scar tissue take their place Bier adds that the remarkable part of it is that even this scar tissue may actually perform the needed function For a more extended treatment of this question Bier refers to the investigations of Borst and Enderlen published in the *Deutsche Zeitschrift fur Chirurgie* **99**, June 1909

Meaning of the Term "Uremia"—The current views in regard to the pathogenesis of uremia are only approximately correct and need revision Veil thinks The term uremia' covers too many things that in the light of recent investigations are not closely associated If for traditional reasons the term must be retained it should be used he says, to designate 'only azotemia or ureahemia Its diagnosis should be based on the chemical proof of abnormal quantities of the constituents of the urine and of nitrogenous bodies in the blood

Bone Disease from Undernutrition—Bohme says that the similarity between the clinical picture of osteomalacic affections and that of ordinary rickets led to the use of the same therapy which proved adequate namely highly nutritious diet that was sufficiently varied prevention of unnecessary weight bearing by the bones and administration of cod liver oil with phosphorus This therapy usually produced an improvement in the general condition a rapid remission of the pain and the return of strength so that the patient was soon able to walk and later to go about his work In deformities of the legs corrective bandages worn during the night were found beneficial The fact that the same external conditions sometimes produce rachitis tarda and sometimes osteomalacia raises the question as to the relation between the two diseases The pathologists support the view that from an anatomic standpoint the two diseases cannot be differentiated Clinicians insist on a differentiation especially from the pathogenetic standpoint maintaining that in osteomalacia a hyperfunction of the ovaries is a main cause Bohme thinks that the observations of the war period bring out also the close clinical relationship between the two diseases some cases, it may be impossible to distinguish between primary and secondary jaundice

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*Sarcoma of Frontal Sinus P Caliceti—p 551
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The bone changes in rickets and in osteomalacia are essentially the same In respect to localization, however there is some difference, which may perhaps be explained by the modifying influence of the ovaries The symptoms and clinical course of this war period type of osteomalacia differ from those of peace times That the glands of internal secretion were often damaged could be concluded from the fact that certain secondary sexual characteristics were repressed

Injury of the Middle Meningeal Artery—The diagnosis of injury of the middle meningeal artery, while an easy matter in typical cases, becomes exceedingly difficult if the classical symptoms of cerebral pressure are absent or are obscured Salomon gives as convincing evidence of the difficulty attending the diagnosis of epidural hematomas the fact, as cited by Brun that of thirty-nine cases of hematoma in Kronlein's service at Zurich only nineteen were diagnosed before the death of the patients, and thus could be given operative treatment To add to the difficulties, patients are often admitted to the hospital in an unconscious state, nothing of their past history being known while the brain is completely paralyzed Salomon thinks a more widespread knowledge of atypical lesions of the middle meningeal artery would lead to better results The diagnosis and the indications for operation should not be allowed to depend so exclusively on the classical symptoms of pressure on the brain Though aphasia may be the only focal symptom, this alone may at times be taken as an indication for operation If after two or three days' observation in spite of temporary improvement, the typical brain pressure pulse the aphasia and the mental condition remain the same we are justified in assuming the presence of a good-sized unabsorbable extravasation of blood the removal of which is clearly indicated Salomon is convinced that extension of the operative indications will reduce quite perceptibly the number of cases that come to necropsy, which now amount to about 50 per cent of all cases

Quincke's Edema—Sieben reports a case of influenza in a 13 year old girl which was followed by chorea and a concurrent angioneurotic edema He has observed a number of cases, in which not only chorea but also other nervous diseases were associated with influenza, so that he does not hesitate to count the chorea and edema among the after-effects of influenza Furthermore, he reports as after-effects of influenza serious maniacal emotional conditions and even genuine mania of the severest type, necessitating confinement of the patient in an asylum but with final complete recovery If Quincke's edema follows one infectious disease (influenza), it may possibly follow other infectious diseases If there are no intestinal symptoms that point to the origin of the disease it would be well to look for some infection that may have played an important part in its genesis

Gonococcus Otitis in Infants—Putzig reports a case of purulent otitis media in a 14 month old child which occurred nearly two months after the child had been successfully treated for a typical gonorrhea He thinks that it was due to a second infection transmitted from the mother who was still suffering from a specific gonorrheal discharge He emphasizes the need of bacteriologic examination of the discharge in all cases of persistent suppuration of the ear in infants especially those who have had gonococcus infection as knowledge of the gonorrheal origin makes possible specific treatment, such as with 1 per cent protargol solution and if necessary, potassium permanganate lavages, which usually bring about a cure in a few days If a bacteriologic examination is not made, the child may be seriously injured by a protracted otitis, and through lack of knowledge of the danger, other members of the family may become infected

Poisoning by Oil of Eucalyptus—Auerbach reports a case of poisoning in a man of 47 who had ingested about 20 c c of oil of eucalyptus Half an hour afterward he was found unconscious in bed Auerbach found the patient cyanotic, with a weak, slightly accelerated pulse, and covered with a cold sweat The pupils were contracted and fixed The area of cardiac dulness was increased and breathing was shallow Ingestion of milk caused vomiting, and milk lavage brought forth distinct evidence of eucalyptus oil The condition of the patient slowly improved, and complete recovery followed on the fourth day Auerbach gives this account of the case because he finds in the literature few reports of *poisoning* from oil of eucalyptus

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*Actinomycosis of Lung G H Moll van Charante—p 1150
*Growth of Urinary Calculi F Hijmans—p 1159
Case of Ascending Paralysis A Q van Braam Houckgeest—p 1163
*Present Status of Acute Purulent Pleurisy W F Wassink—p 1165

Actinomycosis of the Lung—Moll van Charante *reports* the case of a man of 45 with a history and aspect suggesting tuberculosis, but a very tender point was found in the interscapular space, with dulness, and the vocal fremitus was weak and there were some rales Roentgenoscopy revealed what seemed to be periostitis of ribs, but the discovery of actinomycetes in the sputum cleared up the diagnosis Necropsy showed symmetrical abnormal conditions in the periosteum of nearly all the ribs the periosteum often sagging like a bag and the lungs were studded with minute lumps In a second case pain in the left side for three months was finally explained by a swelling assumed to be a tuberculous process in a rib The infiltration was hard as wood but soon softened, and an incision released *pus* containing the actinomyces Symptoms suggesting pleurisy with effusion developed, back of the process in the chest wall No fungi were found in the sputum and the lung did not seem to be involved Complete recovery followed ample incisions, roentgen treatment potassium iodid and copper sulphate, locally and internally Agglutination may help in the diagnosis, the actinomyces does not become agglutinated but the patients' serum is said to agglutinate *Sporotrichum beurmanni* although Harbitz and Israel were unable to confirm this After long coughing and expectorating, sudden violent pain in side and chest is soon accompanied by the hard infiltration with final softening and retraction of the chest wall With secondary infection, air from the lung may get into the abscess and the succussion sounds then are pathognomonic One case is on record of ten years' duration, but others are known with a fatal outcome in three months Potassium iodid, eucalyptus oil and roentgen treatment have not benefited more than a few cases Illich found no recoveries in fifty-eight cases, but Mayer found seven in thirty-five, and Netter has reported a case of complete recovery in four weeks under 6 gm daily of sodium iodid Two cases are on record of recovery under vaccine therapy when conditions seemed very grave seventeen injections in one case and six in the other Operative intervention as for cancer has now a record saving twelve otherwise doomed patients

Growth of Urinary Calculi—In one of Hijmans' two cases, 11 large stones, weighing altogether 110 gm, were found in the bladder six years after cystotomy to clear the bladder of 2 small stones In a second case, two years after pyelotomy 6 phosphate stones were found in the kidney pelvis weighing in all 40 gm Such cases teach the necessity for keeping patients under surveillance after an operation for urinary calculi, and regulating their habits to correspond to the urine findings Regular supervision at three months intervals might reduce materially the number of cases of recurring urinary calculi

Acute Purulent Pleurisy—Wassink analyzes recent literature on this subject and remarks that the trend seems to be to restrict intervention to puncture in recent cases of rapid onset with numerous cocci in the empyema or serous effusion The puncture may be supplemented or not with insufflation of gas If the condition of the lung permits Mozingo's method of closed sterilization may be tried and may ward off actual empyema (The Journal Dec 21, 1918 p 2062) The Dakin method is still on trial and should not be attempted outside of a large hospital The experiences with open treatment of empyema in young children have been extremely unfavorable Repeated puncture seems to be all the intervention that should be attempted in infants

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PHYSICAL AND HYGIENIC BENEFITS OF MILITARY TRAINING AS DEMONSTRATED BY THE WAR

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Probably no other class of men have the vision, as medical men have, to see the good that would result from universal military training.

There never has been a real survey of the man power of the United States, but all of us know that many surprising facts would be developed if such a survey were made. The Civil War gave a certain indefinite survey at that time, but during the last fifty-five years tremendous changes have taken place in our mode of living, and the human mechanism has not adjusted itself to the changes of civilization. We have had no opportunity to judge the defects among our male population. For a long time the finger of scorn has been pointed at the Army and Navy because we had such a high percentage of venereal disease. I have been interested in this subject for a quarter of a century. The only reason we had a high percentage of venereal disease was that we knew the amount of this disease among our soldiers and sailors and published it to the world. We always knew that the rate of venereal disease did not represent the rate in the Army but did represent, to a fair degree, the rate in the civil population in the vicinity of our military posts. We do not contract venereal disease in the Army to any extent, but acquire it almost exclusively from without the military reservation. With a distinct understanding of the meagerness of the information we had at the beginning of the world war, it is most interesting to review the statistics furnished by the draft, the report covering the mobilization of nearly 5,000,000 men in the military forces of the United States (Army, Navy and Marines).

BENEFITS RESULTING FROM THE WAR

The cessation of hostilities at a period in the war when the American battle casualties had been insignificant, in comparison with the losses of other belligerent countries, offers a favorable opportunity to consider the brighter side of the war and to estimate what benefits have accrued to the nation as a whole, and to the individual soldier in particular, *from calling to the colors* approximately one twentieth of the entire population of the United States. These benefits are manifold and may thus be roughly classified.

1. Improvement in physical development as a result of outdoor life, good food, regular exercise and strenuous physical training.

Alertness, activity, strength, endurance and discipline combined with a body free from disease, are the first requirements of a soldier. These qualities are largely obtained by gradual and well regulated physical training. As applied to the recruit, this training enables him to bear the hardships and to overcome the difficulties of warfare. The beneficial results of physical exercise during the training are supplemented by the outdoor life, the regular hours required, the plain, simple food the good sanitary surroundings, and the many other features that promote the development of a high type of physical manhood. The improvement in the physical development of the young man in the Army was most striking. Our sanitary inspectors visited dozens of camps to investigate the thoroughness of the examination made on the arrival of the recruit at camp, and they made the same investigation of the soldier before his demobilization. At the first of these examinations, the inspector was greatly impressed by the stream of naked men who were awkward, narrow chested, with flabby muscles and often with a stoop. Contrasted with this picture, he was tremendously impressed by a similar line of naked men who presented themselves for examination before demobilization. They were bronzed, erect, broad-chested soldiers with fine muscular development and a characteristically alert and self-confident air. Many exaggerated statements have been made as to the gain in weight soldiers have acquired during the war. Some day these statistics will be available, but at the present time no correct statement can be made. The officer in charge of the sanitary division of the Surgeon-General's Office estimates that the average gain in weight in the first year of military service is from 15 to 20 pounds. The actual records of one company of National Guard troops under the semitropical conditions existing on the Mexican border in 1916 showed an average gain of 12½ pounds a man in nine months. Studies on this subject during the war made by the division of foods and nutrition in the office of the Surgeon-General showed in one infantry company an average gain of 10 pounds a man after four months of service, and in three artillery batteries an average gain of 6 4/10 pounds in six months. Another study showed 2 9/10 pounds gained in five weeks. There is no doubt that this gain in the soldiers' weight was almost entirely muscular tissue. It is reasonable to believe that a six months' training of the youths of our land during the year they are 19 years of age would produce *similar good results from the physical standpoint.*

2. Detection and cure of many obscure and [illegible] pathologic conditions, [illegible] venereal disease, tul [illegible]

The examination [illegible]
ing would bring [illegible]

ties detected would not be disqualifying for military service, but could be remedied during the period of training Notable examples would be painful feet, weak backs, hookworm infestation, malarial infection, venereal disease, and focal infection from diseased tonsils and diseased teeth In the examination of the draft it was ascertained that 29 per cent of the men had physical disabilities that were disabling for military service A small list is given in the accompanying table Suffice it to say, however that of the 225,000 cases of venereal disease in the Army during the war, prior to May 1, 1919, 200,000 were contracted before enlistment, that is, before the men joined the Army This statement was made from incomplete statistics and is only relatively correct

SOME IMPORTANT DEFECTS REVEALED BY THE DRAFT

		Per Cent
1	Defects of feet (flatfoot, 11 per cent)	13
2	Venereal diseases	
	During first period of draft	2 9
	In later period of the draft (Increase due to improvement in method of examination and tabulation, and also to the larger percentage of negroes inducted during the later period)	5 7 8 6
3	Hernia and enlarged inguinal rings	4
4	Defective vision (largely refractive errors)	3⅓
5	Defective physical development (including underweight and underheight)	3⅓
6	Organic diseases of the heart	3
7	Deformities or loss of extremities	3
8	Tuberculosis	2 50
9	Hypertrophy of tonsils	2⅓
10	Defective and deficient teeth	1⅓
11	Mental deficiency	1 25
12	Otitis media (purulent)	1
13	Hemorrhoids varicocele varicose veins (combined)	1
14	Goiter (simple and exophthalmic)	0 75
15	Deformities of hand	0 75
16	Cardiac arrhythmias and tachycardia	0 50
17	Asthma	0 25

3 A determination by examination of the actual physical condition of the adult male population of military age, and a consequent awakening of the nation to the necessity for efforts directed toward limiting the possibility for the continued evolution of physically defective citizens

The examination of the registrants before Dec 15, 1917, resulted in the rejection of 29 per cent This was before the industrial and economic classification of all registrants had been made After this classification had been accomplished, 14 5 per cent were rejected by the local boards, and approximately 7 per cent were rejected by the boards at military camps This gives a total rejection by camps and local boards of 21 2 per cent Forty-seven per cent of the men examined were found to have certain defects Fifty-three per cent were accepted as fully meeting the physical standard, with no defects recorded

4 Instruction in sanitation and personal hygiene gained by both precept and practice in camp A great part of this acquired knowledge the discharged soldier will take back to his home and transmit to his family and fellow citizens

As you know, a great effort was made at our concentration camps to provide every requisite for high-grade sanitation Camps were models of cleanliness An ample supply of potable water was furnished, sewage disposal was complete, shower baths were unlimited, and the best of food was provided Every effort was made to have food properly prepared The men were protected against flies and mosquitoes Food handlers were examined to detect possible carriers of typhoid, paratyphoid and dysentery Modern laundries were established Vice and liquor selling were abolished or limited In addition to what the soldier saw of sanitary methods at the camp, he was given instruction in sanitation and personal hygiene, he was provided with suitably fitting shoes, his teeth were examined and put in condition, and he was vaccinated against typhoid, paratyphoid and smallpox He was frequently examined to detect incipient disease A great part of this knowledge the soldier retained to take back with him into civil life It will have a marked influence on his method of living, and he will transmit a part of his knowledge of hygiene to his family and neighbors

5 Education in sex relation and in the matter of protection from the dangers of illicit sexual indulgence This subject is of so great importance that it is given a special heading

There is no one thing which demands greater attention from the people of the United States than does the widespread prevalence of venereal disease The discussion of this subject has been tabued in polite society until quite recently The examination of the men between 21 and 31 years of age developed the fact that more than 5 per cent were suffering from manifest venereal troubles The Wassermann test was not taken, so cases of syphilis which did not present local manifestations were not detected The wide prevalence of venereal disease among our young men was a revelation to the people at home and I think that from now on the campaign against venereal disease will be one of the good results from the war While the soldier was in camp he was protected in every conceivable way from venereal disease—by education, by law-enforcement, and by early treatment The low record for venereal disease in the American Army in France was a revelation to our allies It is believed that the education on this one subject alone will be of tremendou value to the country in the future

6 Training in discipline and the development of respect for authority

Among those promoted to commissioned and noncommissioned grades, there was developed the faculty to command and exact obedience I do not think too much importance can be laid on this subhead I am certain it is accepted by all that in recent years the tendency of the American youth has been in the direction of disrespect for authority, whether parental, municipal or national I think the discipline of military life has had a most wholesome effect on the American soldier, and will in a marked degree make him better material for citizenship The experience which these men gained will be of inestimable value in civil life

7 Protection, by vaccination, of 5 000,000 men against the danger of contracting typhoid, paratyphoid and smallpox for several years to come

This will have a far-reaching effect on the population of the United States for many years We have learned to control typhoid fever and have practically eliminated by sanitary measures dysentery and malaria Even as late as the Spanish-American War, typhoid fever, dysentery and malaria filled our hospitals During the world war those three diseases were practically negligible quantities in our sick report Until May 1, 1919, we had only 213 deaths from typhoid fever, thirteen deaths from malaria, and forty-two from dysentery Think of the great change that has taken place in this respect as contrasted with the Civil War and the Spanish-American War

BENEFITS OF UNIVERSAL MILITARY TRAINING

The statements that I have made refer to the good the Army did the American soldier during the world war There is every reason why this good could be multiplied with the youth of the land by universal military training It would give us a wonderful opportunity to make a physical survey each year of the youth of the land It would enable us to detect physical disabilities that could be remedied and would make the man economically more valuable for the rest of his life Many of the disabilities which men carry through life and which interfere with their value as citizens are remediable At one time during the war, 10,000 cases of hernia were awaiting operation All of these disabilities could be corrected during the period of military training Defective vision could be corrected, men with weak feet and weak backs could be relieved The mental defectives could be classified, the young man would be given an object lesson in discipline and be taught respect for authority—the good that could be accomplished is unlimited

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PATHOLOGIC ANATOMY OF TRAUMATIC FRACTURES OF CRANIAL BONES

AND CONCOMITANT BRAIN INJURIES*

E R LECOUNT, M D
AND
CARL W APFELBACH
CHICAGO

This attempt to consider the injuries of the brain and cranial bones when the latter are broken by external violence is based on conditions encountered in 504 postmortem examinations made by one of us during the years 1911 to 1918 It does not include all the postmortem examinations during that period of the bodies of persons with such traumatic fractures, for in about sixty instances the measurements and other steps necessary in the interests of precision were not so detailed as in the 504 here reviewed The patients were cared for in the Cook County Hospital or the Hospital of the House of Correction, and some postmortem examinations were of bodies of persons who were found dead or who died en route to a hospital

SIX FUNDAMENTAL CONSIDERATIONS

Notwithstanding certain still mooted questions regarding the mechanism whereby the injuries of both the cranial bones and the brain are produced, and especially the influence a whirling motion of the falling head and body may have on the characteristics of the injuries, there are six facts that are generally accepted and need brief mention as a background for what follows

1 There are six regions where the greater thickness of the cranial bones forms arches thicker below and gradually thinning out in the vault one in front from the root of the nose and glabella, one behind including the inion and the external and internal crests of the occipital bone, as well as the torcular eminence, one on each side from the external angular processes of the frontal bone and prolonged obliquely back and into the body of the sphenoid in the bones of the skull base, and finally one on each side formed by the petrous bones and continued externally in the protuberance of the mastoid (Figs 1, 2 and 3)

2 With violence applied to the cranium, these arches hinder horizontal bending, whereas the bone between the arches can more easily bend vertically As a result, the bone between the arches flattens the more in a horizontal plane and breaks across the linear fractures radiating up into the vault and down into the bones of the base of the cranium between the arches

3 With the head in motion the brain lags behind the more rapidly moving cranium, and as a consequence is closer to the cranial bones *opposite* where violence is applied, and with the axis of the skull abruptly shortened at right angles to where violence is applied, the brain is the more bruised opposite that place

4 The resistance (weight) of the trunk and extremities transmitted to the skull via the condyles of the occipital bone tends to bend in the bottom of the skull, especially the arches and is one factor determining the course and distribution of the fractures

5 When the cranial bones are broken with the head in a fixed position, contrecoup bruising of the brain is reduced to the minimum and the bruises are direct, at the place of fracturing

6 The general direction taken by fractures which course between the arches is also well known and is shown in Figures 4, 5 7, 10, 19, 23 and 29[1]

NATURE AND LOCATION OF FRACTURES

About 85 per cent of the 504 cases here considered were simple linear fractures or linear fractures with branches, in the remainder, the bones were extensively comminuted and with some of the fragments depressed With the bones of the cranial base involved slightly more than those of the vault, both were involved in varying degrees in all but about 8 per cent of the 504 When grouped according to the fossae chiefly involved, with one group for the vault and one for fractures so extensive that several fossae and part of the vault as well were broken, the incidence is as shown in the accompanying table In this table are included a few fractures partly healed or so healed that their courses could still be followed Many of the fractures of the back fossae ran forward to end in the ethmoid bone or one of the foramina of the middle fossae Violence for these fractures as indicated by the scalp injuries was usually to the back of the head Of the sixty-one fractures of the anterior fossae, seventeen were simple linear, from 2 to 5 cm long and in the roof of one orbit Of the extensive fractures, usually with comminution, the violence was to the back of the head for twenty-seven, to the side for nineteen and in front for four The average of the total linear length of these fractures was 70 cm, the greatest 138 9 cm (Fig 19) With the vault fractures, some traumatic diastasis of sutures was not rare in twelve of the forty-nine, part of the sagittal or its entire length was aff , in the coronal

LOCATION OF FRACTURES

	Posterior Fossae	Middle Fossae	Anterior Fossae	Vault	Extensive	Totals
Total number	178	166	61	49	50	504
Some depression	[illegible]	11	6	4	[illegible]	31
Mode of injury learned	170	1 4	1	33	4	3 0
Short falls	50	43	9	[illegible]	[illegible]	[illegible]
Longer falls	48	37	13	10	13	1 7
Street car	17	12	16	4	13	[illegible]
Automobile and autotruck	11	17	[illegible]	2	11	48
Assault	18	15	6	9	3	51
Meningitis	1	[illegible]	13	3	1	39
Healed fractures	7	6	4	1	0	18
Decompression operation	1	[illegible]	3	8	6	59

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*From the Coroner s Medical Service at the Cook County Hospital
*Aided by a grant from the Otho S A Sprague Memorial Institute

[1] We have made no attempt but wish refer e pecially to the work o 1902 50 236 1899) and th l encephale Pari 1909)

St. Robert Nelly Librar

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suture, and in five, one or both lambdoid sutures As regards the meningitis, the petrous parts of the temporal bones were the portal of entry for the infection in twenty-three, the ethmoid bone in thirteen, in two fractures the opened sagittal suture with the scalp laceration, and in one the petrous bone of one side was broken and a decompression operation had been made With thirteen of the eighteen fractures with some degree of healing, there were contrecoup bruises, and in four, direct bruises alone With one of these healed fractures there was an abscess of the left cerebral hemisphere in front, the fracture of the right posterior fossa and no outside bruise of the brain, in other words, the abscess opposite the fracture

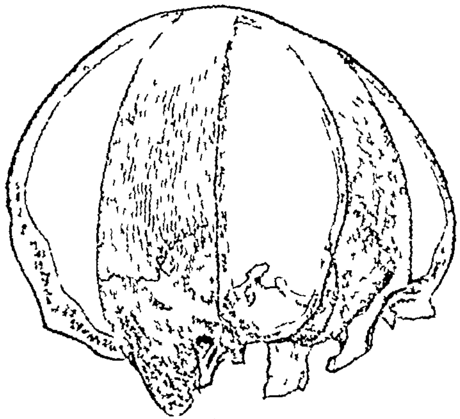
Fig 1 —Location of the reinforcing arches of the cranium

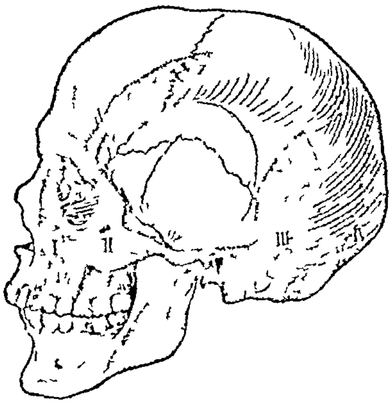

Fig 2 —The thickest portions of the cranial bones are in the shaded areas

CONCOMITANT BRAIN INJURY

The injuries of the brain concomitant with fractures of the cranial bones are preponderantly of the outside of the brain, owing partly to the inbending of the cranial bones, but chiefly to the bumping of the brain against the cranial bones Most fractures of the cranium result from causes which first set the head into rapid motion and then suddenly stop the skull against a firm object The brain, floating as it does in the cerebrospinal fluid, lags in the movement of the head, so much so that when the head stops moving the brain receives its greatest injury by bumping against the cranial bones directly opposite where the cranium is broken When the bones of the temporal fossae or of the nuchal planes of the occipital bones are fractured, because of their thinness, there is frequently a bruise directly under the fracture resulting from inbending of the bone and compression of the brain The back half of the cerebrum is larger and heavier than the front half, and because of this the front poles of the cerebrum are more frequently and more extensively bruised than the back poles If the lateral ventricles are enlarged (internal hydrocephalus), the sides of the brain and front poles are more easily torn As a result of these factors the frontal and temporal lobes are the most frequent site of injury, injuries of the back of the head have a large percentage of contrecoup bruises, of the sides, the next largest percentage of contrecoup bruises, and injuries of the front are more frequently associated with large direct bruises than with large contrecoup bruises

DEGREES OF BRAIN INJURY

That the degree of brain injuries may be indicated in some way, they are roughly divided into seven groups, according to severity

1 Severe lacerations of the brain from 4 to 6 cm in diameter and extending into the brain 4 or 5 cm Here there is a defect in the surface filled with clotted blood and torn brain tissue There were fifty-four injuries of this type, and in fifteen the tear had extended into one of the lateral ventricles (*Figs 14 and 22*) In thirty-nine of the fifty-four, bleeding continued intracerebrally for a few centimeters, so that in places on some of the surfaces made by coronal sections of the brain beyond the margins of the bruises of the outside there were hemorrhages inside of the brain not connected with the surface (Figs 12, 13 and 14) Thirty-six of the latter occurred in the frontal or temporal lobes, three in the occipital lobes, usually with severe injuries (street car, automobile, high falls, etc) There were subdural hemorrhages with all fifty-four injuries, weighing from *10* to *220* gm All except eight were contrecoup injuries

2 Bruises of the brain, usually wedge-shaped, in which the brain is infiltrated with blood from 2 to 4 cm deep in a place 4 or 5 cm in the largest outside dimensions (Figs *25, 30 and 32*) The leptomeninges covering the bruise are usually torn, the brain is lacerated from 1 to 2 cm deep, the adjacent tissue is thickly infiltrated with blood, and the margins are edematous and dotted with petechial hemorrhages Subdural hemorrhage is always present, but in amounts varying from a few grams up to 100 gm Bruises of this type were the most frequent of all of the larger bruises There were 248 in this series 182 contrecoup and sixty-six direct

3 Bruises, frequently with the leptomeninges intact, from 1 to 1 5 cm deep, with little laceration of the brain tissue There is generally hemorrhage into the brain, wedge-shaped on cross-section (Figs 11, 16, 24, 25, 27 and 28) These are found with cranial fractures in which the trauma is usually of such a degree as might result from a short fall on a sidewalk, floor, etc They are also frequently associated with the severe injuries, mentioned above, that is, with a blow on the back of the head on the right side the large bruise will be of the left frontal or temporal lobe, while one of these more superficial bruises will be found of the right frontal and

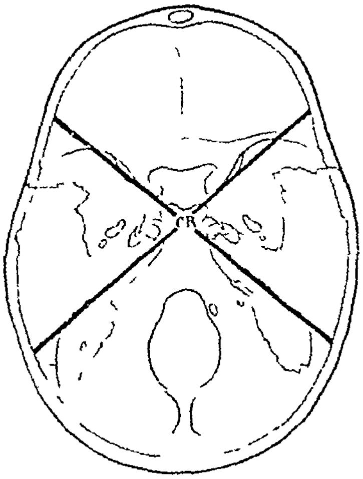

Fig 3 —As the arches come together at *the* body *of* the sphenoid bone they are curled up at their ends because of this, fractures radiating down into the base of the cranium course toward the body of the sphenoid bone as shown in many of the illustrations

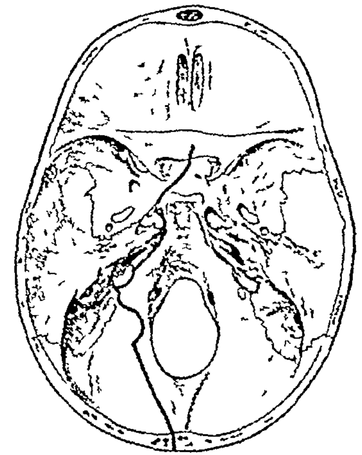
Fig 4 —The fractures shown in this illustration and in Figures 5 6 and 7 may be taken as 'composites' that is to say, they represent conditions with extension from the vault down into the different fossae (Figures 1 3 4 5, 6 and 7 are taken from LeDentu A and Delbet Pierre Nouveau traité de chirurgie XIII Auvray M Maladies du crane et de l encéphale Paris 1909)

temporal lobes or of the right side of the cerebellum (Figs 11, 24 and 25) This type of injury was present with about 35 per cent of all the fractures In only fifteen when these were the largest bruises present were there subdural hemorrhages with clots weighing more than 10 gm, and in only two did they weigh as much as 90 gm

4 Superficial contusions represented by closely set petechial hemorrhages of the cortex in places from 1 to 1 5 cm in diameter (Figs 21, 24, 27 and 32) The meninges are intact and usually there is a little bleeding into the leptomeninges about the contusion One or more of these contusions is usually present when the brain is severely injured, oftentimes five or six Like those in Class 3, they are in those parts of the brain some distance away from the direct line of force (Figs 16, 21 and 24) Some of them were the only gross evidence of direct injury of the brain

5 Hemorrhages into the pons and medulla, chiefly the pons, centrally located, often multiple and the individual hemorrhages from 1 to 3 mm in diameter (Fig 18) These are usually contrecoup in location, that is to say, the fractures do not course through the bones adjacent to the brain-stem The explanation of these hemorrhages is variously stated contrecoup bruising, stretching of the brain away from the brain-stem because the former is more movable, and interference with the blood supply of the pons and medulla (infarction)

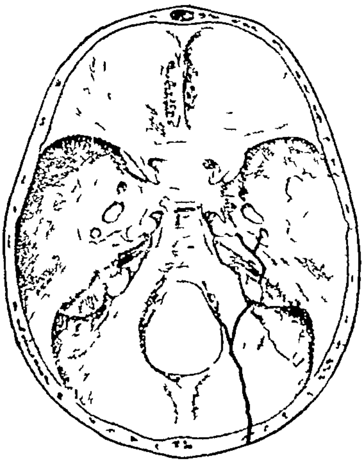
Fig 5 —Composite fracture

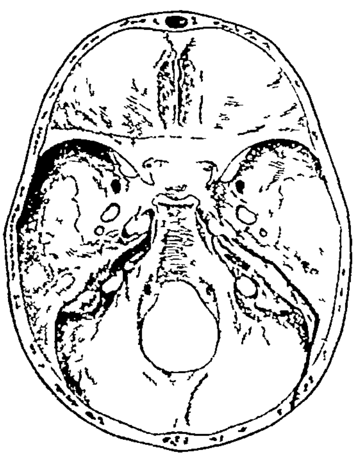
Fig 6 —Composite fracture

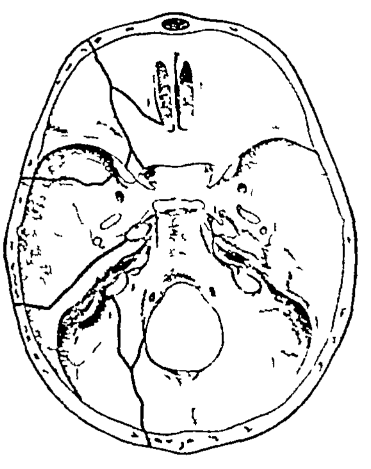
Fig 7 —Composite fracture

There were eighteen brains with hemorrhages in the brain-stem with fractures of the posterior fossae in thirteen multiple, and in five a single hemorrhage from 2 to 4 mm in diameter In thirteen of the 166 fractures of the middle fossae, there were hemorrhages in the pons, ten of these patients lived less than one day, one three days, one seven days and one ten days There were three with fractures of the frontal fossae, and all were associated with extensive injury of the brain There were brain-stem hemorrhages in eighteen of the fifty extensively comminuted fractures, twelve with the violence applied behind, five of the side and one of the front of the skull In the forty-nine fractures of the vault, there were hemorrhages in the brain-stem in five, and none of these patients lived longer than one day in the hospital[3]

6 Small intracerebral hemorrhages, usually in the cerebral basal ganglions, from 5 to 10 mm in diameter There were only six of these in the 504 fractures of this series (Fig 18)

7 Small intracerebral hemorrhages about 1 cm in diameter, usually single, occurring when an extradural blood clot compresses one of the hemispheres They are always in the compressed hemisphere They were present with only four of the 104 large extradural hemorrhages (Fig 30)

INCIDENCE AND NATURE OF BRAIN INJURIES

Brain Injuries with Fractures of the Posterior Fossae—In 149 (83 70 per cent) of the 178 fractures, the largest bruise of the brain was contrecoup, in sixteen (8 98 per cent) direct, and in three both the contrecoup and direct bruises were of equal extent In the remaining ten the brain injury was slight When the fracture was near the midline, the bruising was usually fairly symmetrical of each frontal lobe at the tips, lower outer margins and of the tips of the temporal lobes (Figs 20, 21 and 22) With the fractures coursing more outward from the midline and forward in the posterior fossae, the contrecoup bruises were chiefly of the opposite side of the brain (Figs 10, 11, 12 and 13) As a rule with the violence applied close to the back of the ear, the frontal and temporal lobes on that side were little if any bruised In 159 of this 178 (89 32 per cent), one or both frontal lobes bore bruises, tears or both, in 120 (67 41 per cent), the temporal lobes had so suffered, in sixteen (8 98 per cent), the occipital lobes, and in fifty-five (30 89 per cent), the cerebellum As already stated, the injuries of the frontal and temporal lobes were chiefly of their frontmost convolutions, undersurfaces and lower convolutions, but with the point of injury high on the back of the head, the undersurfaces of these parts of the cerebrum were chiefly bruised, with the injury at the level of the external occipital protuberance, the contrecoup bruises were chiefly of the frontal poles of the cerebrum, if at some distance from the midline, the outer margins of the opposite frontal or temporal lobes were chiefly bruised, in short, there has not been observed any noteworthy deviation from the directly opposite location of the contrecoup bruising of the brain which is such a conspicuous and important feature of the lesions accompanying the fractures

Brain Injuries with Fractures of the Middle Fossae—In 103 (62 04 per cent) of the 166 fractures, the largest bruises of the brain were contrecoup, in forty-three (25 90 per cent) direct In the remaining twenty the brain injury grossly visible was [illegible] slight leptomeningeal hemorrhage of ab[illegible]
the two sides of the brain
which were without gross inju
per cent) of this 166, one or
bruises, tears or both, in 1

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2 Greenacre Phyllis Multiple Spontaneous Intracerebral Hemorrhages, a Contribution to the Pathology of Apoplexy Bull. Johns Hopkins Hosp 28 312 1917

[3] With some of these hemorrhages sugar is found in the urine as it is also with large spontaneous (apoplexy) hemorrhages in the pons

or both temporal lobes, in thirty-eight (22 89 per cent), the parietal lobes, in fifteen (9 03 per cent), the occipital lobes, and in ten (6 02 per cent), the cerebellum The bruises of the frontal lobes were mostly of the outer margin and undersurface In only a few instances were the bruises of the frontal lobes deep, and then the external injury was of the back half of the parietal region of the opposite side The bruises of the temporal lobes were preeminently of the outer margin and undersurface, depending on whether the violence was applied low or high on the vault, respectively (Figs 23, 24, 26 and 27) One or both of the temporal lobes were bruised whenever the brain was injured

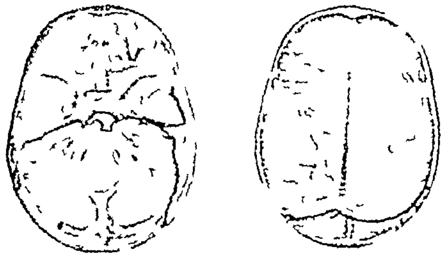
Fig 8 (Case 23)—An extensive traumatic comminuted fracture of the cranial bones with an independent fracture of the roof of the right orbit The fracture is 53 cm long The scalp was bruised opposite the right mastoid region This man aged 52 was struck by a street car six hours before death

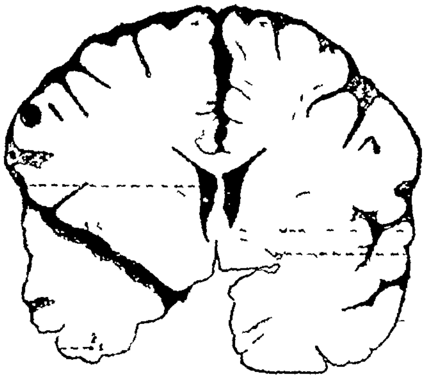
Fig 9 (Case 23)—Extensive traumatic leptomeningeal hemorrhage due to extension from contrecoup bruises of the frontal and left temporal lobes

Bruises of the Brain with Fractures of the Frontal Fossae—In thirty-five (57 37 per cent) of the sixty-one, the greatest bruising of the brain was direct, in thirteen (21 31 per cent) contrecoup In forty-four (72 13 per cent), the frontal lobes were bruised or torn, in seventeen (27 70 per cent), one or both temporal lobes, in three (4 91 per cent), one or both parietal lobes, in nineteen (31 14 per cent), one or both occipital lobes, and in eleven (18 03 per cent), the cerebellum In thirteen brains there was no gross evidence of injury, and in thirty-seven of the sixty-one fractures the brain injury was slight (or no injury was present), death resulting from other causes (in nine from meningitis, in eight, from delirium tremens, in six, from broken bones, in five, from epilepsy, in two each, from bronchopneumonia and internal injuries, and in one each, from uremia, tetanus, drowning, syphilis and so-called pachymeningitis hemorrhagica interna)

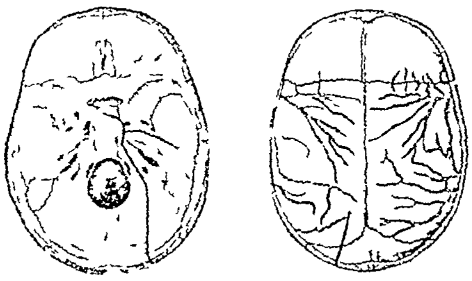
Fig 10 (Case 24)—Typical linear fracture of the right posterior fossa resulting from the patient's falling backward and striking the back of the head on a cement floor The patient was a white man aged 45

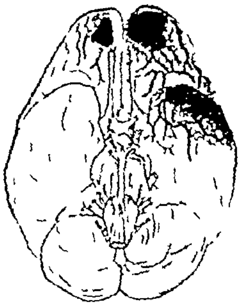
Fig 11 (Case 24)—The location of the contrecoup tears of the left frontal and temporal lobes (Class 1) the superficial contusion of the right frontal lobe (Class 3) and the extent of traumatic leptomeningeal hemorrhage The front half of the left cerebral hemisphere was covered by a subdural clot and at the tears the clot was from 8 to 10 mm thick Altogether the subdural clot weighed about 25 gm

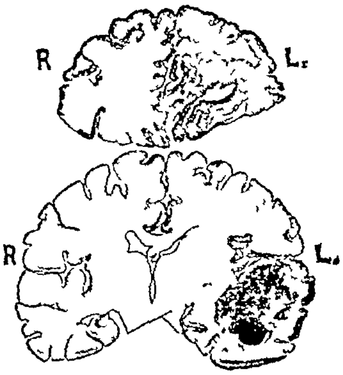

Fig 12 (Case 24)—Coronal sections (anterior surface) through the frontal and temporal lobes showing the depth of the contrecoup bruising (Class 7)

Brain Injuries with Extensively Comminuted Fractures of the Cranium—The greatest bruising of the brain in thirty-one (62 per cent) of the fifty was contrecoup, in fourteen (28 per cent), direct, and in five, both the contrecoup and direct bruises were equally severe In only two of the fifty brains were the injuries slight, consisting of direct leptomeningeal hemorrhage The point of external violence was used in deciding whether the bruising was contrecoup or direct, because some of the fractures encircled the skull, and especially through the middle fossae In thirty-nine of the fifty (78 per cent), one or both frontal lobes were bruised or torn, in thirty-seven (74 per cent), one or both temporal lobes, in seven (14 per cent), one or both parietal lobes, in eight (16 per cent), one or both occipital lobes, and in sixteen (32 per cent), the cerebellum Of the twenty-seven fractures in which the violence was applied *behind, the contrecoup bruising* was greatest in fourteen, in four, direct, in eight, chiefly contrecoup, but the direct bruises were also large, and in one there was little injury of the brain Of the nineteen with the violence applied to the side of the skull, in nine the contrecoup bruising was greatest, in five, direct, and in five chiefly contrecoup, but the direct bruises were also large With the external violence applied in front, the direct bruises were greatest in three of the four, and in one the brain injury was slight

Brain Injuries with Fractures of the Vault—In thirty-nine (79 59 per cent), the greatest bruising was contrecoup, in nine (18 36 per cent), direct, and in one, the brain injury was slight In eight of the thirty-nine brains, the contrecoup bruising was only slightly greater than the direct The frontal lobes were bruised or torn in thirty-nine (79 59 per cent) of the forty-nine fractures, the temporal lobes in thirty-three (67 34 per cent), the parietal lobes in sixteen (32 65 per cent), the occipital lobes in nine (18 36 per cent), and the cerebellum in six (12 24 per cent) The contrecoup bruises were mostly of the undersurfaces of the frontal and temporal lobes, usually with many contusions of the type included in Class 4 (Figs 31 and 32)

SUBDURAL TRAUMATIC HEMORRHAGES

Subdural traumatic hemorrhages result most frequently from lacerated cerebral veins where the brain is bruised Also of importance are the bleeding, torn, cortical vessels Infrequent sources of subdural hemorrhage are torn dural venous sinuses and the larger cerebral arteries of the base of the brain In order to obtain facts for a better understanding of the location and extent of subdural hemorrhages, as much of the blood as could readily be removed from the torn brain without further injury was weighed, its distribution measured and the injury described, all with some accuracy

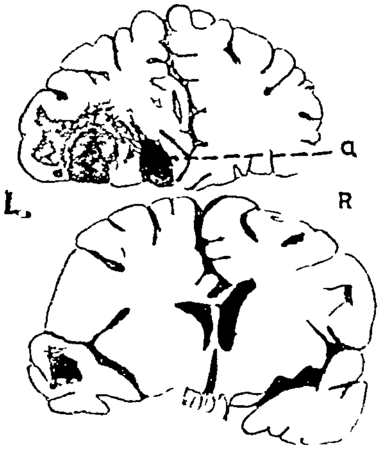

Fig 13 (Case 25) —Coronal sections (posterior surface) through the frontal and temporal lobes showing contrecoup bruises of the left frontal lobe (Class 1) and intracerebral bleeding back into the left temporal lobe

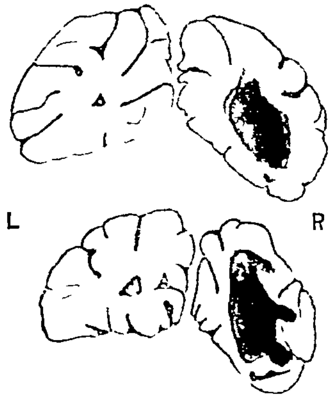

Fig 14 (Case 25) —Coronal sections (posterior surface) through the occipital lobes The bruise of the outside could not be seen from the undersurface with the cerebellum attached (Class 1) and both intracerebral bleeding beyond the margins of the bruise and rupture into a ventricle

Subdural Hemorrhages with Fractures of the Posterior Fossae —Examinations were made in 136 of the 178 fractures of this group In 115 of the 136 there was subdural hemorrhage, 104 contrecoup and eleven direct In seventy-one of the 115 the blood weighed between 20 and 210 gm , but the most frequent weight of these large clots was about 40 gm In the remaining forty-four there were usually only a few grams (from 1 to 10 gm), and in a few from 10 to 20 gm Of the large subdural hemorrhages, fifty-four were local, that is, confined to the front third or front half of the cranial cavity , seventeen were more widely spread over one side of the cerebrum

Of these large hemorrhages, sixty-six were located altogether on one side Two of the large subdural hemorrhages were contributed to by tears of large cerebral veins without severe injury to the brain

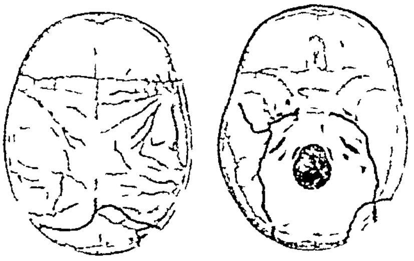

Fig 15 (Case 26) —Extensive traumatic comminuted fracture of the cranial bones 55 9 cm long The cause of the fracture was undetermined The scalp bruises were opposite the lambda The patient was a white man about 35 years of age

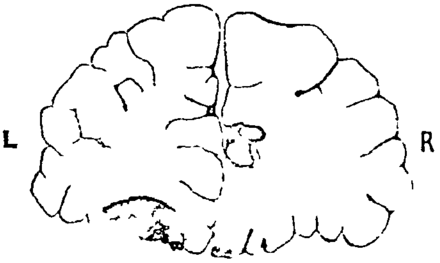

Fig 16 (Case 26) —Coronal section (posterior surface) of the frontal lobe Contrecoup bruises of Class 3 of the left frontal lobe and Class 4 of the right frontal lobe are shown here

Subdural Hemorrhages with Fractures of the Middle Fossae —Examinations were made in 134 of the 166 fractures of this group In ninety-eight there was subdural hemorrhage Of these, in fifty-one the blood weighed between 20 and 310 gm , in the other forty-seven much less In sixty-three the subdural hemorrhage was contrecoup, in thirty-five direct Of the large subdural hemorrhages thirty-six of the fifty-one were contrecoup, and fifteen, direct Also, thirty-one of the large subdural hemorrhages were local, and twenty widely spread The small subdural hemorrhages were only a few millimeters thick and extended from 1 to 10 mm beyond the margins of the bruise from which the bleeding occurred With increasing size, the subdural hemorrhages spread mostly up over the parietal lobe, the front margin advancing less than the upper and back margins

Subdural Hemorrhages with Fractures of the Frontal Fossae —In twenty-one of the forty-eight accurately described cranial injuries in this group there was subdural hemorrhage, and of these twenty-one, thirteen were direct and eight contrecoup There were only six large subdural hemorrhages, five direct and one contrecoup, the latter beneath the tentorium cerebelli

Subdural Hemorrhages with Extensively Comminuted Fractures —In forty-three of the fifty fractures in this group, accurate records of the subdural hemorrhage or its entire absence were made There were subdural hemorrhages in thirty-six twenty large and sixteen small Eighteen large subdural hemorrhages were contrecoup, and only two direct Twelve small hemorrhages were contrecoup and four direct In several cases there were both direct and contrecoup subdural hemorrhages

Subdural Hemorrhages with Fractures of the Vault —There were subdural hemorrhages in thirty-eight of the forty accurately described brains twenty-eight of these were large and ten small All but three of the large subdural hemorrhages were contrecoup, and fourteen of the large hemorrhages were local

TRAUMATIC EXTRADURAL HEMORRHAGES

Bleeding, which splits the dura away from the cranial bones as a result of fracture, may result from laceration of the trunk or branches of one of the middle meningeal arteries, the dural venous sinuses, the cerebral veins at the point of entrance into the superior longitudinal sinus tears of the dura allowing free subdural blood to enter the extradural space, from the broken cranial bones, or from pericranial hemorrhages with comminuted depressed fractures

There were extradural hemorrhages in 199 (39 48 per cent) of the 504 fractures in this series Of the [illegible] 199, 104 (52 26 per [illegible]) [illegible] large enough to produce appreciable [illegible] the [illegible] (f[illegible] 246 gm) and n[illegible] few grams Of the large extradural hemorrhages, seventy-three (70 19 per cent) were with fractures of the middle fossae, fifteen (14 42 per cent) with fractures of the posterior fossae, ten (9 61 per cent) with fractures of the vault, three (2 88 per cent) each with fractures of the frontal fossae and fractures listed as extensively comminuted About 50 per cent of the small extradural hemorrhages resulted from bleeding of the broken bones, and 20 per cent from torn dural sinuses The remainder were probably due partially to bleeding from broken bones and from pericranial hemorrhage

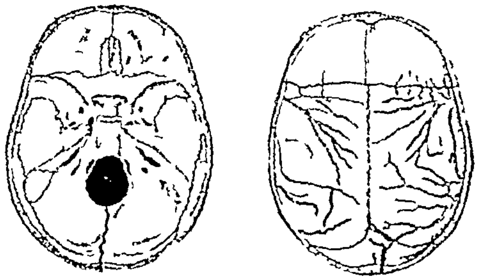

Fig 17 (Case 27) —Healing traumatic fracture of the skull of undetermined cause in a negro, aged 40 This illustrates the course of many fractures of the posterior fossae

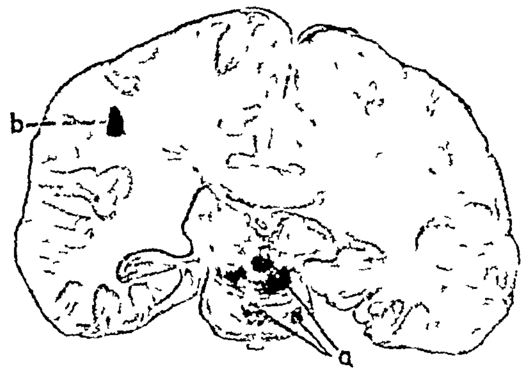

Fig 18 (Case 27) —Typical traumatic hemorrhage (*a*) in the pons (Class 5) and (*b*) traumatic hemorrhage of the intracerebral type (Class 6), usually in the cerebral ganglions

Of the large extradural hemorrhages, forty-nine covered the temporal and parietal lobes on one side, thirty-four the temporal, parietal and occipital lobes on one side, fourteen one occipital lobe, six the frontal and parietal lobes on one side, and one the temporal and parietal lobes of both sides Of these large hemorrhages, forty-nine were attributed to bleeding from the anterior branch of one of the middle meningeal arteries, forty-four from one of the posterior branches, three to laceration of the superior longitudinal sinus (the blood in two weighed between 25 and 30 gm , in the third about 60 gm on each side, that on the left removed by the surgeon) and eight, in which there were fractures of the posterior fossae, from one of the transverse sinuses, the blood in none of the latter weighing more than 50 gm Thirty-six of the large extradural hemorrhages were with fractures of the middle fossae passing through the anterior parts of the fossae in the squamous portions of the temporal bones, and thirty-seven with fractures that passed through the middle and posterior portions of the fossae Comminution of the bones in the middle fossae occurred in less than half of the seventy-three large extradural hemorrhages, most of the fractures were of the linear type Fifty-four of the large extradural hemorrhages were on the left side, forty-nine were on the right side, and one was on both sides

The usual shape of the blood clot of the large compressing type is oval, the margins thinnest and the center thickest The long dimension is obliquely directed up and back The lower border is seldom lower than the middle temporal convolution, and the upper border is usually 1 or 2 cm from the superior longitudinal sinus (only in six instances did the clot reach to the sinus) The thickest portion of the clot is usually at the middle of the outer surface of one of the parietal lobes so that the greatest compression of the brain is in a line drawn horizontally through the middle of the parietal eminences The compression of the brain is saucer-shaped (Fig 30) The blood clots early, so that with death one or one and one-half days after the injury the clot adheres to the dura, when the calvarium is removed, rather than to the bones Later the clot becomes so adherent that it is necessary to use the sharp edge of a knife to detach it The average dimensions of a clot weighing about 100 gm (this is an average weight) are 10 by 8 cm and from 3 to 3 5 cm thick

In nine of the large extradural hemorrhages caused by fractures of the middle fossae, there was no bruising of the brain grossly visible, in thirty-three there were only superficial bruises like those included in Class 3 of brain injuries, in twenty-five there was sufficient bruising to allow from 5 to 20 gm of blood to enter the subdural space, and in six there were large subdural clots weighing from 40 to 120 gm In none of the fifteen large extradural hemorrhages resulting from fractures of the posterior fossae was the brain without bruises, and in thirteen there were large bruises, contrecoup, and in the other two like those of Class 3 There were bruises of the brain in the remainder of the large extradural hemorrhages, frequently like those of Class 2 The proportion of contrecoup and direct bruises was approximately the same in fractures with large extradural hemorrhages as with the fractures without such hemorrhages

There were decompression operations in twenty-three of the large extradural hemorrhages, in some with free blood still present at the time of the postmortem examination in and beneath the decompression defect, and weighing from 60 to 120 gm There were several decompression operations not included in these twenty-three in which the conditions postmortem precluded conclusions as to whether a large extradural clot was present before the operation, and for these no mention of a large extradural hemorrhage was made in the description of the operation by the surgeon Sixteen of the twenty-three operations were with fractures of the middle fossae, three with fractures of the

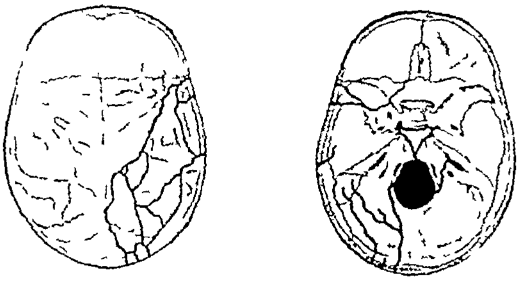

Fig 19 (Case 28) —Extensive comminuted traumatic fracture of the cranial bones 138 9 cm long in a white man aged 52 who while in the hospital suffering from chronic alcoholism jumped from a second story balcony to the main floor and struck the cement floor head first There were superficial contrecoup contusions of the brain (Classes 3 and 4) and moderate leptomeningeal hemorrhage Death occurred in five minutes

posterior fossae, three with fractures of the vault, and one with an extensively comminuted fracture[4]

TRAUMATIC LEPTOMENINGEAL HEMORRHAGE

Bleeding into the subarachnoid space or between the brain and pia (subpial) occurred in about 95 per cent of all the fractures Subarachnoid hemorrhage results most frequently from bleeding of bruises of the brain, but also from rupture of leptomeningeal vessels Subpial hemorrhage results from tears of the pial arteries and cortical vessels Subpial hemorrhage is seldom as extensive as subarachnoid hemorrhage, and is usually only enough to discolor the surface of the brain pink

The extent and amount of subarachnoid hemorrhage is dependent on the size of the tear of the arachnoid membrane at the bruise (with large defects, bleeding occurs more readily into the subdural space[5] than with smaller defects in which the margins of the bruise extend beyond the edges of the arachnoid tear), the bruise of the brain and the laceration of leptomeningeal vessels Therefore, the amount of subarachnoid hemorrhage is not always proportional to the extent of the bruising of the brain It is always thickest about the margins of the bruises and gradually thins out centrifugally, sometimes covering an entire hemisphere When extensive, from 1 to 3 mm thick, the convolutions of the brain are hidden When less extensive, the sulci stand out as a network because the blood tends to collect in them, and between them the convolutions form a pink meshwork When slight, the convolutions are discolored pink ("traumatic lividity") Although severe brain injuries and extensive leptomeningeal hemorrhage are frequently coincident, still there were a few extensively comminuted fractures associated with superficial bruises of the brain but with extensive leptomeningeal hemorrhage, and with some of these death occurred abruptly—from within a few minutes to several hours (Fig 9)

The location of leptomeningeal hemorrhages corresponds in general to that of bruises in the various types of fractures

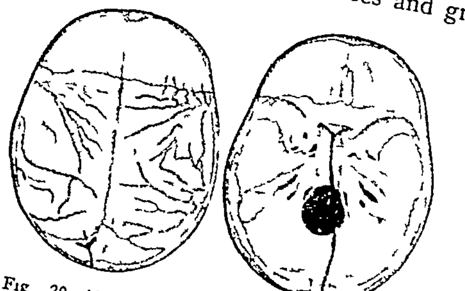

Fig 20 (Case 29)—Typical linear fracture of the midline of the posterior fossae 21 2 cm long The patient a white woman aged 38 died about four days after falling down a flight of stairs

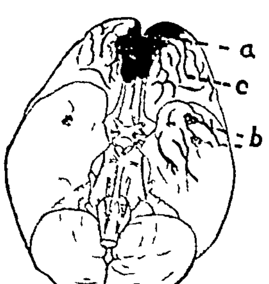

Fig 21 (Case 29)—The location and extent of the contrecoup tears (Class 1) of the frontal lobes (*a*) with rupture of the lateral ventricles contusions (Class 4) of the temporal lobes (*b*) and traumatic subpial hemorrhage (*c*) A thin layer of clotted blood in the subdural space covered the entire brain and at each tear there were about 5 gm Altogether the subdural clot weighed 23 gm

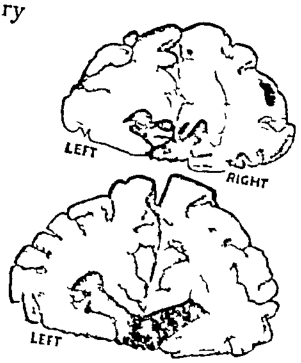

Fig 22 (Case 29)—Coronal sections (posterior surface) through the frontal lobes showing the depth of the tears and the petechial hemorrhages and edema of the surrounding brain tissue

TRAUMATIC EDEMA OF THE BRAIN

The most frequent change in brains of patients dying from fracture of the skull was traumatic edema of the brain, and it was the only change sufficient to explain death in a few cases As in other forms of edema of the brain, the convolutions are flattened, the cerebral veins relatively empty and flattened, the peripheral ends of the sulci closed up more or less tightly the fluid in the leptomeninges greatly lessened, and when the edema is marked, the visceral layer of the arachnoid is almost dry when the dura is first removed, and by reflected light this surface of the arachnoid is finely granular because the little moisture present is heaped up by separating the two serous surfaces into almost microscopic droplets

REPORT OF CASES

The failure on the part of police officers and physicians to recognize the presence of fractures of the cranial bones and severe brain injury, or to recognize these injuries only after several hours, requires some comment Some of the cases reported concern the transfer of patients with fracture of the cranial bones from one hospital to another, in a few even after the nature of the injury was known

Case 1—A man, aged 45 who had fallen on a sidewalk, was taken to a police station and remained there from 11 p m until 12 15 p m the next day, when he was taken to the Cook County Hospital where cerebral hemorrhage left sided hemiplegia and basal skull fracture were diagnosed He lived forty-five hours in the hospital

Postmortem examination revealed a fracture of the right side of the vault, 17 cm long below this an extradural clot weighing 118 gm, covering the right motor region and superficial direct contusions of the right cerebral hemisphere The only external sign of injury was a bruise of the scalp about the right ear

Case 2—An adult negro, after a street fight, while intoxicated fell to the sidewalk and was taken to a police station, where he remained about twelve hours lying on a cement floor The following morning he was taken home and then worked for three days as a porter in a saloon On the fourth day he became dopy and was taken to the Cook County Hospital where cerebral hemorrhage and lacerated scalp were diagnosed He lived eleven days in the hospital, and five days passed between the time of injury and the entrance to the hospital

Postmortem examination disclosed a fracture of the left half of the posterior fossa 8 cm long contrecoup contusions of the frontal and temporal lobes that of the right frontal 5 cm deep a huge subdural blood clot weighing 120 gm of the front half of the right subdural space (brown and clotted firmly) and a healing laceration of the scalp near the inion

Case 3—A man aged 37, walked into a pol[illegible] tio[illegible] 9 p m supposedly drunk The next morning he was taken to the Cook County Hospital where he lived two and one-half days, cerebral hemorrhage and lobar pneumonia being diagnosed

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[4] Although the period of time covered in the two articles is the same a little discrepancy exists between the figures regarding extradural hemorrhages by us and the figures of Dr Moody (The Journal thi[illegible] issue p 511) This is due to the inclusion here of cases from the Hospital of the House of Correction

[5] Strictly speaking the term subdural space is a misstatement because the inside of the dura is lined with the smooth glistening parietal layer of the arachnoid and for subdural space there should be substituted arachnoid space, which is commonly used

At the postmortem examination a fracture of the right half of the posterior fossa, 32 8 cm long, extensive destruction of the tip of the right frontal lobe, 3 cm deep, and a thin clot of blood in the subdural space covering the whole right hemisphere, but chiefly in front, were found There was no sign of external injury of the scalp

Case 4—A man aged 50, fell down a flight of stairs about 1 a m and arrived at one police station at 2 a m the same day, where he remained for twenty minutes and was then taken to another police station for medical care, remaining there until 8 40 a m the same morning when he was taken to the Hospital of the House of Correction Skull fracture was diagnosed and two decompression operations performed, one of each parietal region He lived for three and one-half days in the hospital

Postmortem examination revealed a linear fracture of the left posterior fossa, 9 cm long, contrecoup bruises of the frontal and temporal lobes, that of the right frontal lobe being deepest, reaching to the lateral ventricle a thin subdural clot covering the front half of the right cerebral hemisphere and an extradural clot weighing 40 gm in the operation defect of the left parietal region

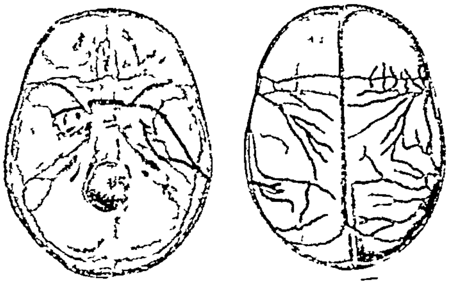

Fig 23 (Case 30)—Traumatic slightly depressed fracture of the skull 19 5 cm long On the right side in the parieto occipital region there was an extradural clot 9 by 7 by 1 cm in its largest dimensions and weighing 40 gm The patient a white boy aged 14 years was struck by an automobile seven and one half days before death

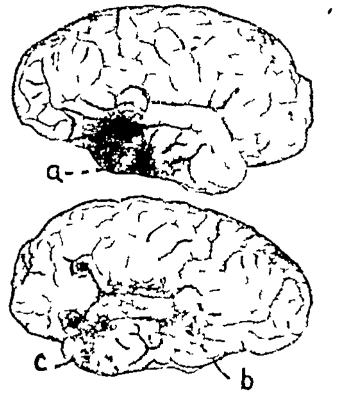

Fig 24 (Case 30)—A direct bruise at *a* (Class 2) under the depressed fracture a contrecoup bruise at *b* (Class 3) and superficial contusions at *c* (Class 4) About the bruises there was leptomeningeal hemorrhage There were several grams of blood subdural about the tear of the right temporal lobe but none on the left side

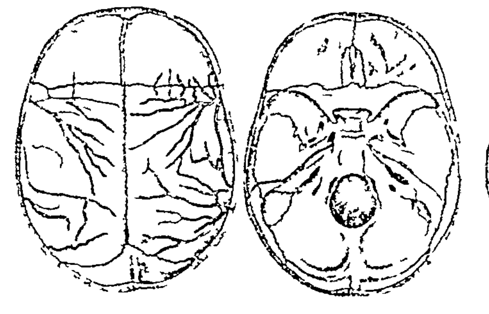

Fig 26 (Case 31)—Linear fracture of the left middle fossa 9 cm long Three days and six hours before death *this man* aged 42 fell while in a fit and struck his head on a cement sidewalk

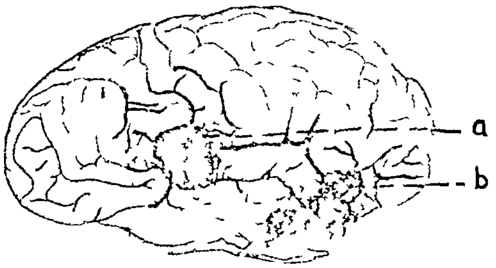

Fig 27 (Case 31)—A contrecoup bruise at *a* (Class 3) and superficial contusions at *b* (Class 4) with subpial hemorrhage There were 90 gm of clotted blood in the subdural space on the right side covering the back half of the hemisphere There was no bruising of the left cerebral hemisphere

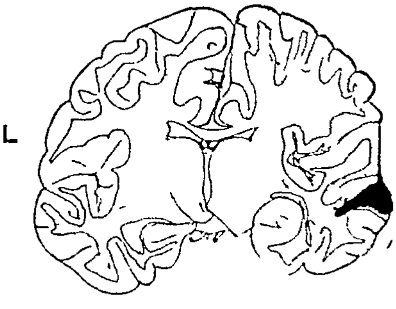

Fig 28 (Case 31)—Coronal section (posterior surface) through the deepest part of the contrecoup bruise The symmetry of the brain is due to compression by the subdural clot on the right side

Case 5—A man, aged 22, after an unknown injury, and supposedly suffering from alcoholism, was taken to a hospital where he remained one day before skull fracture was suspected, after which he was taken to the Hospital of the House of Correction, where he lived two days Skull fracture was diagnosed and a decompression operation of the left parietal region was performed

Postmortem examination revealed a fracture of the left posterior fossa 34 8 cm long, contrecoup bruises of the right frontal and temporal lobes and a direct bruise of the left half of the cerebellum a large subdural clot on the right side in the front half, an extradural clot filling the decompression bone defect and a bruise of the scalp behind

Case 6—A man, aged 35, arrested and taken to a police station, remained twelve hours, *suffering from alcoholism* and epileptic fits, according to the police officers He was taken to the Hospital of the House of Correction, where he lived fifteen hours Skull fracture was diagnosed

Postmortem examination revealed an extensively comminuted fracture of the back and base of the skull, with diastasis of both lambdoid sutures, altogether 60 cm long, also there were deep contrecoup bruises of the frontal poles, subdural clots covering both frontal poles, 30 gm of blood in the decompression defect of the left parietal region, and bruises of the scalp behind

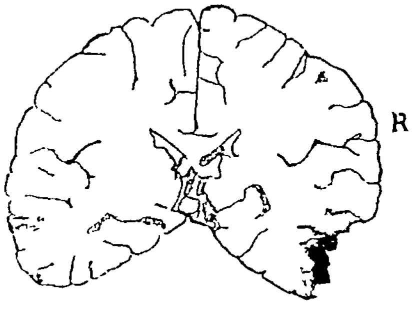

Fig 25 (Case 30)—Coronal section (posterior surface) through the temporal lobes showing the depth of the direct and contrecoup bruises

Case 7—A man, aged 40, was arrested and taken to a police station on account of alcoholism, after remaining there twelve hours he was taken to the Hospital of the House of Correction, where he lived twenty-eight hours, and where a decompression operation of the left parietal region was performed

Postmortem examination revealed a fracture of the right parietal bone slightly comminuted and 17 cm long, a large contrecoup bruise of the right frontal lobe blood subdural in front on the right side weighing 110 gm, and bruises of the scalp over the fracture

In these cases there was failure to detect the presence of a skull fracture, or the fracture was discovered only after hours or days had elapsed [6]

Case 8—A man, aged 28, was knocked to the ground by a falling sack of malt weighing 200 pounds He was taken home, where he remained three days Several physicians examined him but none of them suspected the presence of a fracture of the skull, and one sent him to the hospital for the insane, where he lived seven hours and fifty minutes No diagnosis was made in the hospital

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[6] Such unfortunate occurrences as these are less likely to be repeated since they led to the institution of observation rooms at the Cook County Hospital adjacent to the admittance department where patients are kept over night or until the presence or nature of injuries is definitely ascertained

Postmortem examination revealed a linear fracture of the right posterior fossa, 8 cm long, contrecoup bruises of the right frontal and temporal lobes and of the left occipital lobe, 40 gm of blood on the right side behind (extradural) and a bruise of the scalp at the inion

Case 9—A man, aged 42 while intoxicated, was tripped by a boy, October 9 and taken to the Cook County Hospital, where acute alcoholism and alcoholic dementia were diagnosed, and where he remained until October 22, when he was sent to Oak Forest (an infirmary) October 24 he was readmitted to the Cook County Hospital and lived for two days Skull fracture was diagnosed on *the second entrance*

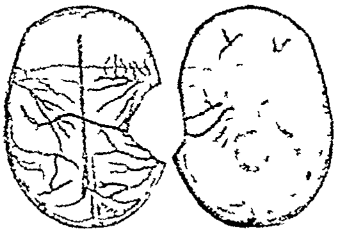

Fig 29 (Case 32)—Traumatic comminuted and depressed fracture of the vault and base of the skull with independent fractures of the frontal fossae also a decompression defect in which five loose pieces of bone were found by the surgeon The superior longitudinal sinus was ruptured and extradural bleeding resulted on both sides that of the left was removed at the operation and 60 gm were found on the right side at the post mortem examination The patient a white man aged 25 lived eleven hours and thirty minutes after being hit on the left side of the vault by a heavy iron bar during a fight

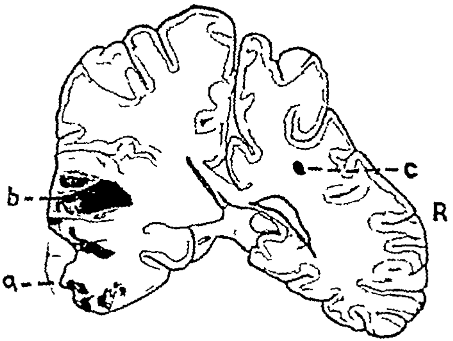

Fig 30 (Case 32)—Coronal section (posterior surface) through the brain 1 cm posterior to the optic chiasm showing a tear (Class 2) at *a* intra cerebral bleeding from a bruise anterior to *b* and the saucer shape compression of the right cerebral hemisphere by the extradural clot weighing 60 gm Traumatic hemorrhage of Class 7 at *c*

Postmortem examination revealed a comminuted fracture of the right posterior fossa through the right petrous bone, in addition to contrecoup bruises of both temporal lobes that of the left, 9 by 3 cm, and reaching to the lateral ventricle, into which bleeding had occurred, also there was an extradural clot covering the right parietal lobe weighing 28 gm. There was no external sign of scalp injury The extradural clots were brown and firmly clotted the subdural mostly on the left side and weighing only a few grams

Case 10—A *man aged* 35 was *struck by another* man in a fight It is not known whether the blow was struck with a fist or a weapon He was examined by a physician immediately who found 'nothing wrong except complaint of headache" Suddenly after two or three hours he had a fit" and was taken to the Hospital of the House of Correction, where he lived two days

Postmortem examination revealed a depressed comminuted fracture of the right temporal bone, 120 gm of blood extradural on the right side in the parietotemporal region, and a superficial bruise of the outside of the right parietal lobe There were no external injuries only a swelling in the right temple

Case 11—A boy aged 8 years run over by an automobile, November 9, was treated at home until November 28, when he was taken to a private hospital and epidemic meningitis diagnosed The same day he was removed to the Cook County Hospital by request of the health department, where he lived two days, and epidemic meningitis was again diagnosed No one suspected skull fracture.

Postmortem examination revealed a small fracture of the ethmoid plate, superficial contusions (mostly subpial hemorrhage) of the frontal poles and left occipital lobe, and meningitis of the base of the brain (pneumococcus) Above the left eyebrow there was a scar

Case 12—A man aged 37, was in a fight, December 26, and fell to the sidewalk. He was taken to a private hospital where he remained four days and where laceration of the scalp was diagnosed. The physicians thought there was no skull fracture He was discharged and went home, but December 31, he suddenly became very sick and was taken to the Cook County Hospital, where he *lived eighteen hours* and where skull fracture was diagnosed

Postmortem examination revealed a fracture of the midline of the posterior fossae, and through the right petrous bone, in addition there were also superficial contusions of the tips of the frontal lobes, meningitis of the base, and a healing laceration of the scalp at the inion

Case 13—A man, aged 71, walked into a private hospital at 5 15 p m with lacerations of the back of the head which were dressed there and which he did not know how he received He walked out of the hospital Two days later he was arrested and taken to the Hospital of the House of Correction, where he lived four days Here he was irrational and unable to talk, alcoholism and delirium tremens were diagnosed

Postmortem examination revealed a fracture of the left middle fossa, linear and 10 cm long, also direct bruises of the left temporal and parietal lobes covered by adherent brown subdural clots, weighing about 5 gm

Case 14—A man aged 48 fell from a moving wagon, January 20, and was taken home On the 24th he went to a physician's office and the physician thought he was suffering from alcoholism He remained at home for three or four days more, wildly delirious and all this time in bed He was then taken to the Hospital of the House of Correction, where acute alcoholism was diagnosed and where he lived two days

Postmortem examination revealed a fracture of the midline *of the posterior fossae, 39.2 cm long, deep* contrecoup bruises of the frontal and temporal lobes, large subdural clots about the bruises, an extradural clot in the left occipital region, and hemorrhages in the pons There was extensive hemorrhage into the deep tissues of the scalp behind

Case 15—A man aged 45 was found on a sidewalk by the police at 1 a m was taken to the police station where an ambulance surgeon diagnosed alcoholism and where he remained until 2 40 p m the same day when he was taken to the Hospital of the House of Correction Here skull fracture was diagnosed and he lived only thirty-five minutes

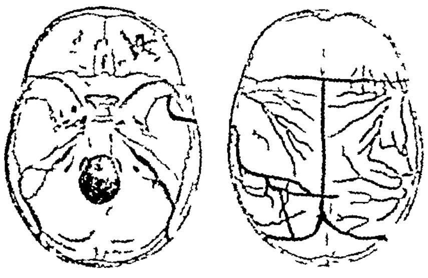

Fig 31 (Case 33)—Traumatic extensively comminuted and diastatic fracture of the skull 12 3 cm long with an independent fracture of the roof of the right orbit The greatest scalp injury was over the back half of the right parietal bone This man aged 35 fell from a ladder head first about two hours before death

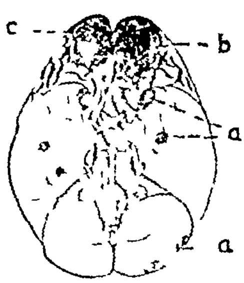

Fig 32 (Case 33)—Multiple superficial contrecoup contusion (Class 4) at *a* a contrecoup tear of the under surface of the left frontal lobe at *b* (Class 1) and a contrecoup bruise of the right frontal lobe (Class 2) at *c* There were [illegible] gm of blood in the left subdural space covering the entire left cerebral hemisphere and only a few grams on the right side at *c*

Postmortem examination revealed a fracture of the right middle fossa 18 5 cm long *200 gm. of blood* extra parietal region superficial bruises temporal lobe and a thin clot of temporal lobe There was no ext

Case 16—A man, aged 49, found on the street by the police at 1 a m, was taken to the police station, where he remained four hours, and then to a private hospital, where a physician diagnosed skull fracture and alcoholism He was then transferred to the Hospital of the House of Correction at 6 a m, and died the same day at 7 40 a m Skull fracture was diagnosed in the latter hospital

Postmortem examination revealed a fracture of the right posterior fossa and traumatic diastasis of the right lambdoid suture, altogether 24 cm long, in addition to contrecoup bruises of both frontal and the left temporal lobes, all superficial except the latter, which reached to the lateral ventricle, there was blood in all of the ventricles of the brain There was only a little subdural hemorrhage about the bruises The scalp was lacerated at the inion

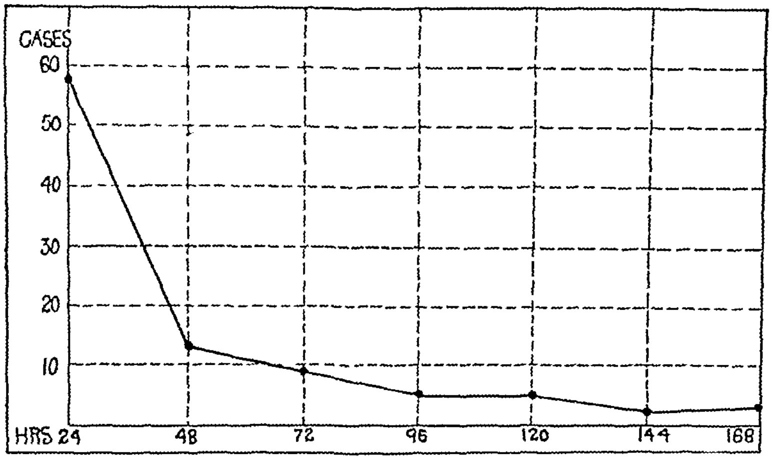

Fig 33—*Time of death of ninety five of the 104 patients dying with large extradural hemorrhages* Of the nine not shown in this graph five were found dead and four died between the eighth and the twenty second day after entrance to hospital (Other details connected with some of these extradural hemorrhages diagnosis operations, etc, are given in the article by Dr Moody)

Case 17—A man, aged 44, was arrested at 2 a m and taken to a police cell, where he remained until 11 a m the next day, the ambulance physician having diagnosed incipient delirium tremens He became violent and was taken to the Hospital of the House of Correction, where he lived eighteen hours, and where delirium tremens was again diagnosed

Postmortem examination revealed a linear fracture of the left lambdoid suture, right parietal bone and right middle fossa, there were also a contrecoup laceration of the left frontal lobe 4 5 cm deep, a large subdural clot covering the top and side of the left frontal lobe, a small extradural clot in the right middle fossa, and hemorrhage into the right eyelid There was no other sign of injury of the scalp, but in the deep scalp tissues of the right parietal region there was hemorrhage

Case 18—A man, aged 24, to escape the police, jumped off a train into the Drainage Canal At the Hospital of the House of Correction, where he stayed one week no diagnosis was made At home he complained of headache, and after ten days was removed to Cook County Hospital, where purulent meningitis was diagnosed, and where he lived one day Postmortem examination revealed a fracture of the ethmoid plate and sella turcica, superficial contusions of both frontal lobes and meningitis of the base

Case 19—A man, aged 53, was found intoxicated by the police, 8 15 p m, June 6, the police took him to a police station, where he fell on the floor, the wounds sustained were dressed at a private hospital, and he was again taken to the police station, where he remained until 11 30 p m, June 7 He was then removed to the Hospital of the House of Correction, where he died, June 10, at 12 m Basal skull fracture was diagnosed

Postmortem examination revealed a fracture of the midline of the vault and posterior fossae, 50 cm long, also there were extensive contusions of the undersurfaces of the frontal and temporal lobes of both sides, 16 gm of blood subdural at the bruises, 30 gm extradural along the superior longitudinal sinus, and meningitis of the left temporal lobe

Case 20—A man, aged 70, was arrested for acute alcoholism and kept in a police station for ten hours, then he was removed to the Hospital of the House of Correction, where he remained two days, lobar pneumonia and delirium tremens were diagnosed

Postmortem examination revealed a fracture of the right middle fossa, 17 5 cm long, a large laceration of the right parietal and temporal lobes reaching to the lateral ventricle, 75 gm of blood outside the dura and covering the right parietal region, and extensive hemorrhage into the right side of the scalp behind

Other cases, such as these, concern cranial fracture recognized by physicians, and the patients transferred from one hospital to another

Case 21—A man, aged 62, was run over by an automobile about one hour before entrance to a hospital, where he was given first aid, he was then taken to another hospital, where a decompression operation was performed above the right ear, here he remained for three or four days, and was then taken to the Cook County Hospital, where he lived three and one-half days and where old skull fracture, infected decompression wound and fractured ribs were diagnosed

Postmortem examination revealed a fracture through the right petrous bone, 18 cm long, superficial contrecoup bruises of the frontal and temporal lobes, fibrinopurulent meningitis of the top of the brain, and purulent ependymitis

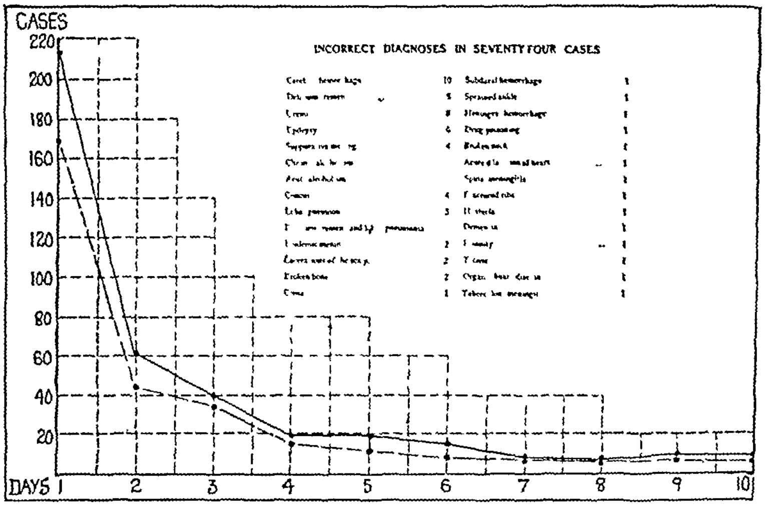

Fig 34—*Time in twenty four hour periods of death from fracture of the cranial bones and brain injuries of 403 of the 504 patients (upper line), and number of correct diagnoses during the same periods (lower line)* The 101 remaining are not included because the time for eighteen of them was from eleven to twenty two days, inclusive twenty seven had to do with persons found dead for thirty eight the records were incomplete and eighteen concerned healed fractures Any consideration of diagnosis must take into account the time under observation Therefore, such charts as were used by Bissell and LeCount (A Consideration of the Relative Frequency of the Various Forms of Coma The Journal March 27, 1915 p 1041, Feb 17 1917 p 500) are continued here

Case 22—A man, aged 37, was struck by a street car at midnight, December 18, and taken to a private hospital, where skull fracture was diagnosed, and where he remained for five days Because of inability to assure payment for hospital service, the patient was transferred to the Cook

County Hospital, where he lived until December 29, altogether eleven days

Postmortem examination revealed a linear fracture of the midline of the base and left petrous bone, 38 5 cm long, there were also lacerations of both frontal lobes, contusions of the temporal lobes and a direct bruise of the undersurface of the cerebellum, a few small subdural clots at the lacerations, and fibrinopurulent meningitis of the cerebellum.

TRAUMATIC FRACTURE OF THE CRANIAL BONES

CLINICAL CONSIDERATIONS, WITH ESPECIAL REFERENCE TO EXTRADURAL HEMORRHAGE *

W B MOODY, M D
CHICAGO

Between August, 1911, and June, 1918, 908 patients entered the Cook County Hospital for "skull fracture" This diagnosis was made certain for 547 of these either by operation or by postmortem examination Fracture of the cranial bones was diagnosed by means of the roentgen ray for 105 others The remainder (256) include patients whose illness and injuries were recovered from, and the conclusion that they also suffered from traumatic fracture of the cranial or other skull bones was not as adequately confirmed, for some small part of these, especially those in the hospital only a few hours, the diagnosis may have been wrong Postmortem examination was made in all deaths but sixty-two, in forty-one of these no fracture of the skull was actually demonstrated

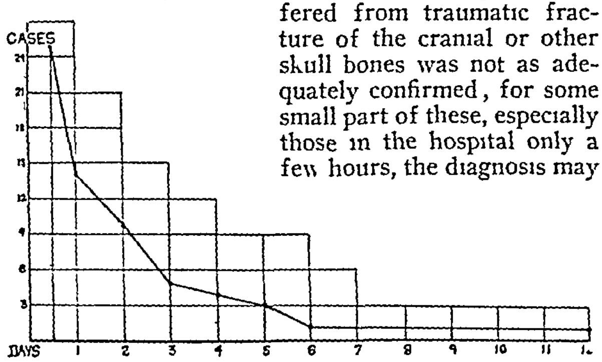

Chart 1 —Number of days under observation of sixty three patients with extradural hemorrhage found at postmortem examination but not recognized clinically

These considerations, as well as others shown in the accompanying table, are simply prefatory, since it is proposed to discuss here the extradural traumatic middle meningeal hemorrhages Of the total 908 thought to be skull fractures (547 demonstrated as such), there were 100 with extradural hemorrhages of such size that compression of the brain by the blood was the chief cause of death This condition was established for all the 100 patients either by operations, by postmortem examinations, or by both

Diagnosis of traumatic extradural middle meningeal hemorrhage, found postmortem, was not made clinically in sixty-three instances The time under observation of these sixty-three patients, whose compression of the brain was not recognized, is shown in Chart 1 It will be noted that twenty-four were in the hospital two days or more, the longest period for any single patient being twelve days

Among other details regarding these extradural hemorrhages, shown in the table, is that all of the thirty-seven patients in whom the condition was recognized had a decompression operation Of this number, twenty-six died, twenty-one being operated on within twelve hours after entrance to the hospital (Chart 2) The longest period any one patient was under observation before operation was seven days Following operation, eighteen died within twenty-four hours, three inside of the next two days and one patient on the twenty-second day (lobar pneumonia)

As stated sixty-three of the extradural hemorrhages were not recognized clinically The maximum weight of the extradural blood found postmortem was 246 gm, the minimum, 40 gm, with an average of 110 5 gm for the sixty-three In the clinical records for all but two there were symptoms generally regarded as useful in the recognition of compression of the brain, nine patients had hemiplegia, nine rigidity of the muscles on one side, and nine had convulsions, in twenty-three there was a positive Babinski reflex, and in some of the sixty-three the symptoms were combined in various ways

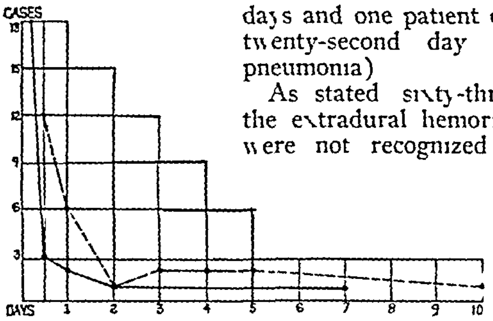

Chart 2 —Time under observation before operation (solid line) and time between operation and death (broken line), of twenty six patients with extradural hemorrhages diagnosed and operated on one patient dying on the twenty second day with lobar pneumonia is not represented

In general, the pulse at the time of entrance and for a short time afterward was full and strong, from 65 to 90, the temperature from 97 to 99 F The most conspicuous features of pulse and temperature is, however, are that in the eleven recov pression operation, the pulse and both lower than in other patients, equally to conditions before and a

FINDINGS IN FIVE HUNDRED AND FORTY-SEVEN CASES OF SKULL FRACTURE *

	Fracture Demonstrated	Fracture Not Demonstrated	Extradural Hemorrhage
Died (male)	407	31	77
Died (female)	37	–	12
Recovered (male)	94	285	10
Recovered (female)	9	35	1
Necropsies	423		85
Operated on and died	82		26
Operated on and recovered	35		11
Entered conscious	108	104	13
Entered unconscious	436	191	87
Convulsions	66	19	14
No clinical evidence of injury	80	35	17
Positive Babinski reflex	156	64	33
Patellar reflex absent	119	42	25
Patellar reflex exaggerated	103	50	26
Hemiplegia	49	–	21
Spasticity	31	–	15
Facial paralysis	36	19	8
Ptosis of eyelids	12	3	2
Clear cerebrospinal fluid (taken before death)	[illegible]	20	7
Meningitis	39	–	0
Bleeding from nose	163	107	34
Bleeding from mouth	55	43	[illegible]
Bleeding from ears	132	118	23
Eye reflexes normal	1[illegible]	203	25

* In sixty two deaths no postmortem examination was made In twenty-one of these fracture had been previously demonstrated Roentgenologic diagnosis of skull fracture was made in 133 instances 30 not being subsequently confirmed (by operation or postmortem examination) There was no roentgenographic evidence of fracture of the skull in ninety six instances Seventeen of these were found at necropsy to be fracture

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* From the Cook County Hospital

In twenty-seven of the clinical records blood pressure is recorded, without, however, anything of importance to comment on here because the observations were not repeatedly made for any single patient

The other important features of these head injuries with one exception are indicated in the table This exception concerns the records of blood examinations, and of all these 107 were found in the entire number (908) That there was an average leukocytosis of 15,300 apparently makes this condition of importance in the recognition of skull fracture The number is so large that it is difficult to be accounted for by bronchopneumonia, and still less readily by meningitis, moreover, many of these blood examinations were made shortly after entrance

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POSTDIPHTHERITIC PARALYSIS

WITH REPORT OF TWO CASES *

SAMUEL W BOORSTEIN, M D
NEW YORK

The most common form of polyneuritis encountered in children is diphtheritic paralysis Not many of these patients, however, come under the observation of the orthopedic surgeon, because either the children recover without any treatment, or they are brought to him too late, just as the case used to be with patients with anterior poliomyelitis who were brought to him only after the deformities were marked Thus, we do not have the frequent chance to see the proper benefit of early orthopedic treatment in diphtheritic paralysis I am anxious to emphasize particularly the value of orthopedic treatment in relieving the distressing respiratory symptoms

Diphtheritic paralysis occurs usually in the second or third week after the illness The frequency of its occurrence after the injection of antitoxin is hard to state, while without antitoxin it occurs in about 5 to 15 per cent of the cases

A distinction may be made between a localized and a generalized paralysis In localized paralysis the soft palate is usually involved The palate alone may be involved or the muscles of the pharynx and larynx may also be paralyzed as well as the ocular muscles Paralysis of the muscles of accommodation is present, but reaction to light remains Paralysis of the pharyngeal muscles causes trouble in swallowing There may be regurgitation of fluids through the nose caused sometimes by difficulty in swallowing and again by the entrance of food into the larynx, owing to anesthesia of the epiglottis and paralysis of the muscles of deglutition The paralysis may involve the recurrent laryngeal muscles, causing hoarseness and aphonia

In the generalized form, the extremities are next affected In severe cases there may also be involvement of the muscles of the trunk and neck, and sometimes of the diaphragm This distinguishes diphtheritic paralysis from other forms of multiple neuritis

In cases in which the extremities are involved, there is at first weakness, followed by paresthesia and then pain Then follow disturbances of movement, of sensation and of coordination Walking is exceedingly difficult or impossible Westphal's sign is always present, and Romberg's symptom frequently may be noted There are disorders of function of the bladder and the rectum Paralysis of the cervical muscles may be so complete that the head cannot be held upright

Respiratory paralysis may be due to involvement of the phrenic or the intercostal nerves It is shown by occasional attacks of dyspnea and coughing As the diaphragm is usually affected, the breathing is entirely thoracic The respiratory movements are rapid, but irregular, shallow and ineffectual There is cyanosis The anxiety, distress and apprehension of the patient are sometimes terrible There is constant dread of impending suffocation

PROGNOSIS

Duration of the affection depends on its severity and extent A patient may recover from a slight localized paralysis in a few weeks The severer form lasts for many months, even for a whole year Recovery is, as a rule, to be expected, though often it is much delayed and frequently leaves deformities The deglutition paralysis is quite serious Respiratory paralysis, myocarditis and nephritis are annoying complications

TREATMENT

Strengthening the diet is an important factor in the treatment of this condition, hence the patient should be fed by a stomach tube if he is not able to eat The injection of serum is of doubtful benefit Absolute rest in bed is important, and early contractures should be prevented Massage and exercise are urgently recommended

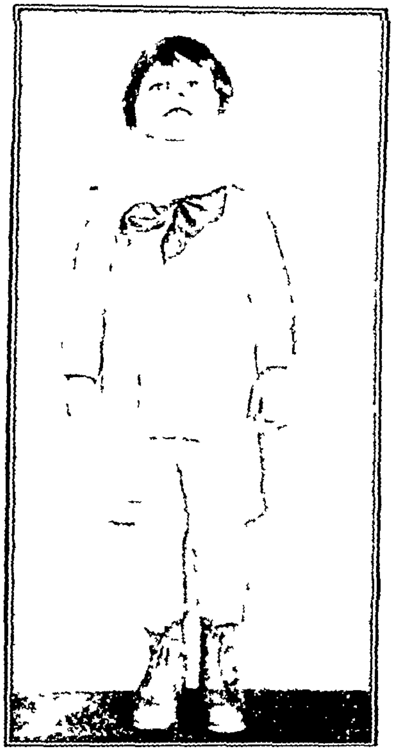

Fig 1 (Case 2) —Position of collar This photograph was taken after recovery

REPORT OF CASES AND COMMENT

Case 1—*History*—O R, boy, aged 3 years, referred to me by Dr Luttinger, Jan 27, 1919, had had diphtheria four weeks before No antitoxin had been administered, and paralysis of all four limbs developed two weeks after the attack

Examination—There was paralysis of all four limbs and of the neck The patient appeared apathetic There was a marked drooping of the head forward, the eyelids dropped, speech was distinctly nasal, and could not be understood at all Respiration was thoracic, rapid, irregular and shallow The patient could not sit up There was marked interference with deglutition

Treatment and Results—After noting the interference with the pharyngeal muscles and fearing the stretching of the paralyzed neck muscles I decided to apply something to prevent the stretching (devised on the same principle as apparatus used in anterior poliomyelitis or other forms of paralyzed muscles) and perhaps also to facilitate the respiratory difficulties Remembering the principle of the Thomas collar used to support the neck in cervical Pott's disease I made a collar from thick felt, 1½ inches in thickness and rather solid, and applied it in the vertical position The width of the collar corresponded to the distance between the chin and the sternum when the head was slightly hyperextended (Fig 1) This piece of felt was enveloped in softer felt, one-eighth or one-sixteenth inch in thickness The collar was put on, encircling the neck, and the ends were sewed together To my great surprise the child began to breathe better immediately I then strapped the feet to prevent drop foot and ordered the patient to bed, leaving the general treatment to the family physician, Dr Luttinger He took a culture from the child's nose and found diphtheria bacilli still present He administered immediately 20 000 units of antitoxin In a week a spinal brace was applied, the collar was left on and massage was ordered Later on, exercises were added The exercises were, of course the ones used in anterior poliomyelitis In one and one-half months the child made a perfect recovery

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* Read before the Orthopedic Section of the Academy of Medicine, Oct 17, 1919

Though diphtheritic paralysis is curable, considering the severity of the symptoms, I believe that the orthopedic treatments, especially the application of the collar, hastened the recovery I do not believe that the antitoxin was responsible for the recovery, as most pediatricians admit the uselessness of antitoxin in such a late stage I was, however, skeptical about the orthopedic treatments till I had a chance to treat the second patient, who presented very interesting features

Case 2—*History*—S W, boy aged 7, admitted to the medical service of Dr T F Reilly, Fordham Hospital, April 25 1919, had had diphtheria two months previous to admission He had received 5 000 units of antitoxin on the second day after the attack Six weeks later paralysis of both upper and lower extremities developed The child could not speak or swallow, and had to be fed by a stomach tube for ten days

Examination —When I was called to see the patient, April 29, there were paresis of both upper extremities and almost complete paralysis of both lower extremities with a tendency to drop foot Breathing was thoracic, superficial and shallow The face was dull and apathetic The head drooped forward and the child could not hold it in an upright position The eyelids dropped The patient could not speak He was still being fed by the stomach tube If liquids were taken, regurgitation through the nose occurred

Treatment and Results—Remembering the benefit derived from the felt collar in the first case I applied a similar one to the second child Plaster casts were applied to the feet at the same time The child began to improve immediately The sudden improvement brought great joy to the kind nurses of the children's ward who had shown a devoted interest in the case Within a few days the child took food himself and showed marked improvement in his speech May 8 massage and exercises were ordered, May 15 the child was able to take a few steps when he was supported The casts were removed, May 31 The child continued to improve and June 30 he was discharged, entirely cured, without any deformity whatever

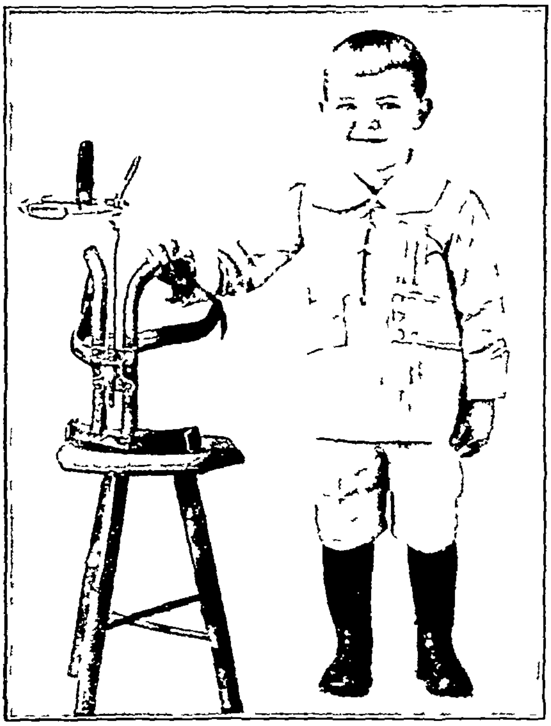

Fig 2 (Case 1) —Complete recovery Note perfect symmetry of the face Child is holding the brace which he was wearing before

It was a source of joy to note the interest of the nurses of the children's ward who spared no pains to carry out all orders The last examination Aug 26 1919, disclosed no paralysis or weakness of any muscle.

This case emphasizes a few points that are in contrast to those noted in the first case Antitoxin was given on the second day, and still paralysis developed The improvement after the application of the collar was remarkable before its application the patient was getting worse all the time

The child was cured without a second dose of antitoxin, which means that the improvements in the first case were also due entirely to the orthopedic treatments

Though children with diphtheritic paralysis do recover, still the very rapid recovery noted in these two cases is undoubtedly due to the orthopedic methods employed

The benefit of the collar can possibly be explained on the theory that mechanically it relieves the pressure on the trachea and esophagus induced by the pressure of the head I am not, however, prepared to say whether that is really the reason

529 Courtlandt Avenue

Effect of Alcohol—The latest number of the special report series issued by the national health insurance medical research committee embodies the results of an investigation made on the effects of alcohol on manual work and the coordination of fine muscular movements The pieces of test work to be done consisted in typing a memorized passage and correlating the number of errors with the speed attained in reproducing a given set of figures many times with a standard pattern adding machine and in pricking with an awl vertical rows of dots on a target suspended vertically at arm's length The subjects included eight men and five women and duplicate sets of experiments were conducted before and after the taking of moderate quantities of alcohol in the form of wine, etc, both while fasting and with food The results of the experiments went to show that alcohol produced some effect in all of the individuals tested by the typing and adding machine methods The degree of effect depended largely on whether the alcohol was taken on an empty stomach or with food for on an average it was about twice as toxic under the former conditions as under the latter In some subjects a moderate dose of alcoholic liquid taken with food produced no measurable reaction Such a nonreactive dose amounted to one glass of port (= 18 5 c c alcohol) in a male subject and to 4 ounces of port (= 22 c.c. alcohol) in a female subject When the alcohol was taken with food, the effect was slightly longer in reaching its maximum When alcohol (30 c c) was taken in 5 per cent strength the effect produced was about three fourths as great as when it was taken in 20 per cent or 40 per cent solution A similar difference was observed when taking diluted brandy (10 per cent alcohol) [illegible] neat brandy (37 per cent alcohol) —M [illegible] 15 1919

BLOOD PRESSURE IN OPERATIVE SURGERY *

ALBERT H MILLER, M D
PROVIDENCE, R I

As a factor in the preliminary examination, for judging the condition of the patient during operation and in following up the postoperative recovery, the blood pressure examination is of great importance although as yet imperfectly appreciated

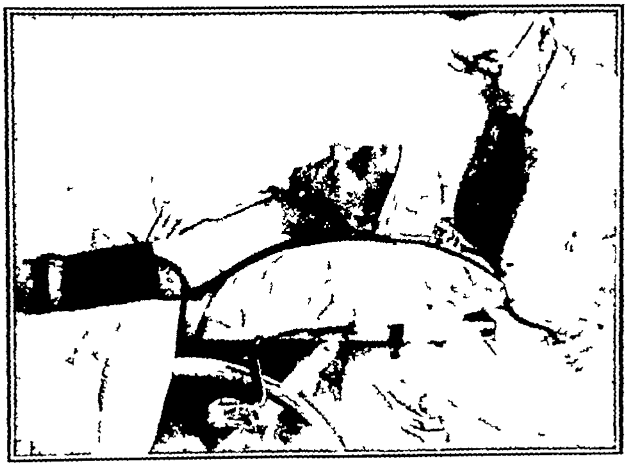

Fig 1—Simple blood pressure apparatus for use in operative surgery stethoscope bell strapped to the arm and attached to ear pieces by tubing sphygmomanometer cuff wrapped snugly around the arm and secured with a safety pin gage and bulb connected to the cuff by tubing

PREOPERATIVE EXAMINATIONS

The physical examination, which should invariably be made before any patient undergoes a surgical operation, is incomplete without a study of the blood pressure Some of the pathologic conditions which bear directly on the chance of recovery from the operation and the anesthetic are indicated by characteristic blood pressure readings Nephritis is accompanied by a marked increase in the systolic and diastolic pressures Tuberculosis is regularly accompanied by a low systolic pressure Myocarditis is indicated by a low pulse pressure Incompetence of the aortic valve is indicated by a high pulse pressure and a low diastolic pressure In some cases of aortic disease and also of exophthalmic goiter, the fourth phase of the blood pressure wave extends to zero and the fifth phase is lacking With the stethoscope applied at the elbow or at the popliteal space, the pulse sounds are heard without constricting the limb In other cases showing the high pulse pressure of aortic incompetence or of exophthalmic goiter, the same condition is found while the patient is under ether anesthesia, but this passes away early in the recovery

For determining the index of the patient's resistance, the rule given by Moots[1] is of great value It may be thus stated

> The pressure ratio, a fraction having the pulse pressure as numerator and the diastolic pressure as denominator, may be normal between 40 and 60 per cent If the ratio is either high or low, there is reason to apprehend danger If the ratio lies between 25 and 75 per cent, the case is probably operable, if outside these limits, it is probably inoperable

In checking up the accuracy of this rule in a series of 1,000 cases, it was found that in the operable cases, 3 23 per cent of the patients died and 96 77 per cent recovered, in the inoperable cases, 23 07 per cent of the patients died and 76 93 per cent recovered[2]

ROUTINE EXAMINATIONS DURING OPERATIONS

The importance of routine blood pressure tests in the course of surgical operations is not generally appreciated Catastrophes occur daily which might have been foreseen and prevented by attention to this subject The apparatus required is simple The bulb or pump with release valve, for raising or lowering the pressure in the cuff, is joined to the gage by a short piece of tubing By a T, inserted in this tubing connection is made with the usual cuff by a tube 3 feet in length The gage is attached to the patient's pillow so as to be in the anesthetist's field of view The cuff is wrapped smoothly about the arm and the outer folds secured by a safety pin A flat stethoscope bell is connected to ear-pieces by a tube 3 feet long The bell is provided with an elastic garter for keeping it in place at the bend of the elbow This apparatus is put in place before the anesthesia is commenced At five or ten minute intervals the anesthetist takes, by the auscultatory method, the systolic, diastolic and pulse pressures and records them on a chart on which are also entered the pulse and respiration rate, and other data of interest concerning the anesthesia or the operation Changes in the blood pressure will result from excitement, from obstruction to respiration, from overdose of the anesthetic, from changes in the position of the patient, from unusual temperature in the operating room, and from hemorrhage or as the result of operative manipulation

Hot and cold applications within the abdomen cause a marked fall in the systolic pressure, but the change is usually transient A drop in the temperature of the operating room is followed by a corresponding fall in the blood pressure, especially in the cases in which there is considerable visceral exposure When the operating room temperature is raised the blood pressure slowly recovers An operation performed in a room at a temperature of from 50 to 60 F is certain to be accompanied by a considerable fall in the blood pres-

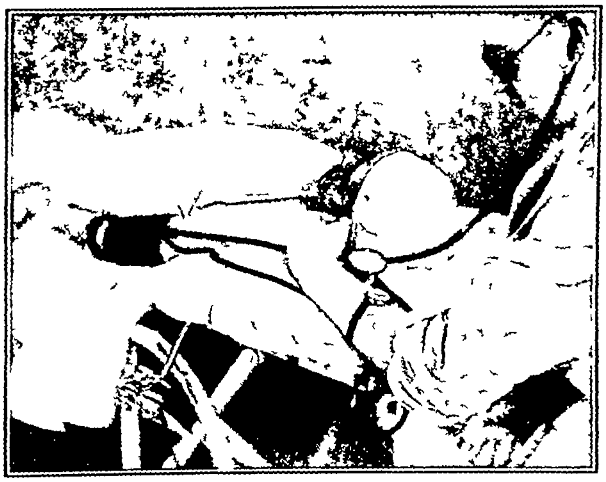

Fig 2—Blood pressure apparatus from anesthetist's point of view gage attached to pillow in easy view thus obviating danger of leaving pressure in the cuff between observations during operations the arm to which the apparatus is attached need not be exposed

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* Read before the Central New York Medical Association Syracuse N Y Oct. 30 1919

[1] Moots C W Am J Obst. **74** 996 (Dec) 1916

[2] Miller A H Boston M & S J **180** 12 (Jan 2) 1919

sure, which will be especially marked if the incision is extensive and if there is a large exposure of viscera The operating room temperature should be a matter of concern and should not be allowed to fall below 70 F in the course of any major operation

EFFECT OF POSTURE

To determine the effect of posture on the blood pressure during operations under anesthesia, a series of 1 000 cases has been tabulated with regard to posture and blood pressure In this study, some confusion in the determination of standard pressures for comparison was inevitable The standard pressures were taken in the dorsal position, some on the day before operation, some on the day of operation before the commencement of anesthesia, and some in the course of the anesthesia and the operation The standard pressures taken on the day before operation are sometimes increased because of excitement On the day of operation, the readings are frequently depressed as a result of the technic of preparation, including catharsis and deprivation of food and water, and following preliminary medication The pressures taken in the course of operations may have been modified by the action of the anesthetic or by operative manipulations The pressures for comparison in the dorsal position have been taken from ten to twenty minutes after the commencement of anesthesia Pressures in other positions have been taken at a like period after the particular position has been assumed

TABLE 1—LACK OF REACTION TO EXPOSURE AND MANIPULATION OF INTESTINE FOR MORE THAN AN HOUR UNDER LIGHT ANESTHESIA IN EXPLORATORY LAPAROTOMY AND REDUCTION OF HERNIA THROUGH FORAMEN OF WINSLOW *

Time	Ether Dosage Fluidounces	Pulse	Respiration	Blood Pressure Systolic	Blood Pressure Diastolic	Pulse Pressure	Remarks
Day before		120	24	120	85	35	
9 45							Ether anesthesia
	1						
9 50		132	28				
	2						
9 55							Operation begun in lithotomy position
	3						
10 05	4	120	36	125	95	30	
10 10							Abdominal operation in dorsal position
10 15		136	48				
	6						
10 25		124	36				
10 30				130	90	40	Exposure and manipulation of intestine
	7	•					
10 40		132	40				
10 45				130	90	40	
	8						
10 55		108	36				
11 00				130	90	40	
11 05		116	32				Appendectomy
11 10	9			135	95	40	
11 15		104	8				
11 20	¼			135	95	40	
11 [illegible]							Operation completed

* Pupil contracted throughout color normal throughout Recovery was uncomplicated

In the dorsal position the systolic pressure varied less than 10 mm in 55 per cent of the cases, increased more than 10 mm in 22 5 per cent, and diminished more than 10 mm in 22 5 per cent

In the lithotomy position, the systolic pressure varied less than 10 mm in 64 5 per cent increased in 24 4 per cent, and diminished in 11 1 per cent

In the combined lithotomy and Trendelenburg position, the systolic pressure varied less than 10 mm in 25 per cent, increased in 50 per cent, and diminished in 25 per cent

In the reverse Trendelenburg position, the systolic pressure varied less than 10 mm in 40 per cent and diminished more than 10 mm in 60 per cent of the cases

In the Trendelenburg position, the systolic pressure varied less than 10 mm in 38 7 per cent, increased in 4 1 per cent, and diminished in 57 2 per cent of the cases

TABLE 2.—RESULT OF TRANSFUSION EXPLORATORY LAPAROTOMY AND GASTRO-ENTEROSTOMY FOR PYLORIC ULCER WITH EXTENSIVE HEMORRHAGE *

Time	Gas Oxygen Liters per Min	Pulse	Respiration	Blood Pressure Systolic	Blood Pressure Diastolic	Pulse Pressure	Remarks
Day before		122		60	30	30	9 p m
9 15				70	40	30	
9 45							Transfusion of 750 c c of blood from sister procain anesthesia
10 00				110	60	50	
10 10				120	80	40	
10 15							Gas-oxygen anesthesia
	10						
10 20							Operation begun
	5½						
10 25							Exploratory laparotomy
10 30		108	24	120	80	40	
10 40		108	30	120	80	40	
10 45		112	24	130	90	40	
10 50	4½	96		130	90	40	
10 55		100		120	90	30	Gastro-enterotomy
11 00	5½	100	28	120	85	35	
11 05		108		125	90	35	
11 10	4½	[illegible]	28	130	90	40	
11 15		108		120	85	35	
11 20	½	104	24	125	85	40	
11 25		112					
11 30		112		90	60	30	
11 35				90	65	25	
11 40	4½	112		100	70	30	
11 45							Operation completed

* Pupil contracted throughout Recovery was normal save for phlebitis ninth day

These figures indicate that in this series of operations under anesthesia In the dorsal position the systolic pressure tended neither to increase nor diminish, in the lithotomy position, it tended to increase in the combined lithotomy and Trendelenburg position the increase in the systolic pressure was exaggerated, in the Trendelenburg position the pressure tended to decline and in the reverse Trendelenburg position there was a marked tendency to decline in the systolic pressure

The routine use of the reverse Trendelenburg or Fowler position following certain types of operation has undoubtedly contributed to unnecessary fatalities Its use must be condemned unless the patient's condition has first been proved satisfactory by blood pressure tests

EFFECT OF ANESTHESIA

By a light degree of anesthesia, in the absence of efficient dosimetric methods, we refer to a condition of anesthesia characterized by quiet respiration, a contracted pupil, with no increase in the secretion of perspiration mucus and tears and the pulse and blood pressure not markedly affected The anesthetics, when carefully administered do not usually cause a rise in blood pressure With cyanosis the systolic pressure is raised If excitement be present the systolic and diastolic pressures and the pulse rate are increased A profound degree of general anesthesia is likely to be accompanied by a rapid decline in blood pressure The spinal administration of anesthetics is followed ' a distinct drop in blood pressure which frequently reaches the danger zone, in one instance, the systolic pressure had declined to 20 mm ten minutes after the administration

The effect on blood pressure of overdosage with anesthetics is not generally realized Cholecystectomy hysterectomy and other major operations if free from hemorrhage may be performed under light anesthesia without marked effect on the blood pressure or the pulse rate Under the overdosage of the anesthetic frequently employed, a tremendous decline in blood pressure is regularly noted

INDEX OF SURGICAL SHOCK

A falling blood pressure with an increasing pulse rate is the most certain indication of the incidence of surgical shock For determining the presence of shock McKesson's[3] rule is an important guide It is thus stated

> With a pulse rate of 120 or more, a pulse pressure of 20 mm or less, and a diastolic pressure of 80 mm or less in a patient who at the beginning of the operation had presented normal pressures frank shock has occurred If these low pressures are continued without improvement for more than half an hour, a vicious circle is generally established which without treatment, will cause the death of the patient

In checking up the accuracy of this rule, it was found that in patients who were within the danger zone as determined by the rule for more than twenty-five minutes the mortality rate was 69 23 per cent "

CONCLUSIONS

Before every surgical operation a physical examination should be made including an estimation of the blood pressure

During operations, blood pressure tests provide an invaluable index to surgical shock hemorrhage, and anesthetic overdosage

The sphygmomanometer should be used not only in selected cases but also as a routine measure In this way we shall become accustomed to normal variations in the blood pressure during operations and be able to detect the signs which indicate vital changes in the patient's condition

The Fowler position should not be used after an operation until the circulatory condition has been proved to be satisfactory by blood pressure examinations

131 Waterman Street

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[3] McKesson E I Am J Surg (anesthesia supp) **30** 2 (Jan) 1916

The Doctor's Dilemma —The doctor like his brother professional men finds himself in a tight place in these days where income and outgo make such close connections - but the doctor has an additional grievance The salaried man gets his pay such as it is on time The doctor frequently has to wait for his and sometimes waits in vain All the other bills apparently take precedence over the doctor's Not, surely because his services are less valued or because he is less in need but more because he has the feeling that in his profession service should rank above profit Were he to emulate the tradesman he would run the risk of lowering the splendid tradition of his brotherhood A minister almost never sues for his salary A doctor must look at it in somewhat the same way If the ethics of a profession stand in such wise an obligation of honor surely lies on those whom the profession serves to accept the same high standard and live up to it —Milwaukee *Journal*

AN OUTBREAK OF BOTULISM *

DWIGHT L SISCO, A M, M D

BOSTON

The outbreak of botulism reported here occurred in January, 1920, in an Italian family, living in the Bronx New York City The source of the toxin was shown to be a glass jar of factory packed California ripe olives These olives, consumed as such and also as part of a salad, caused the death of six of the seven members of the family who ate of them Bacteriologic examination of these olives was carried out by Mr Paul Orr in the Department of Preventive Medicine and Hygiene of the Medical School of Harvard University, Dr Charles Krumwiede of the Research Laboratories of the New York City Department of Health, the Microbiological Laboratory at Washington, D C, and Dr Gettlar of Bellevue Hospital, New York At the present writing it is known that at least two of these laboratories have been successful in demonstrating the presence of *Bacillus botulinus* and its toxin Mr Paul Orr, working in this laboratory, has succeeded in isolating from the remainder of the olives used by the family a bacillus morphologically and culturally characteristic of *B botulinus* A Mandler filtrate of the liquor in which the olives not eaten were found proved toxic to animals as follows When injected intraperitoneally into a 12 gm white mouse, 0 004 c c of this filtrate caused death in seventy-four hours One-tenth c c of this filtrate given to a 200 gm guinea-pig by mouth resulted in death in sixty-eight hours A 410 gm guinea-pig which was given 3 c c of the same filtrate by mouth, was found dead twelve hours later One-tenth c c of antitoxin (Graham) injected intraperitoneally and simultaneously with 0 1 c c of the Mandler filtrate failed to protect an 11 gm white mouse, death occurring in four hours This indicated that the toxin in the olives was formed by an organism not homologous to the one used by Graham in the preparation of the antitoxin The toxin was destroyed by heating to 80 C for two minutes

There were eight members in the D family Mary, the mother, aged 33, Paul the father, aged 36, Dominica, a son, aged 16, Antonio a son aged 13, Angelo a brother of Paul aged 26, Dominick a brother of Paul, aged 46, Lena, a daughter, aged 9, and Joseph a son, aged 7 Dominick lived down town in Manhattan but all the other members of the family lived together in the Bronx Dominick frequently brought ripe olives to his brother's home, and it was he who furnished the jar of olives and made the salad that caused the deaths

The diagnosis was not made until a necropsy performed on the body of the second member of the family to die suggested the possibility of food poisoning It was then recalled that an outbreak of botulism due to ripe olives (the Detroit outbreak), had been described in a very recent journal Investigation of this clue led to the discovery that all the members of the family had partaken of ripe olives, and were presenting symptoms of botulism A detective was immediately sent to the D home with orders to confiscate all foodstuffs in the house

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* This work is a part of the investigation of food poisoning conducted under the direction of Dr M J Rosenau professor of preventive medicine and hygiene Medical School of Harvard University The investigations are made under the auspices of the Advisory Committee on the Toxicity of Preserved Foods of the National Research Council and under a grant of the National Canners Association

The investigation here reported was begun after four of the family were dead, one so far gone that he could give no information, and one so ill that he could hardly talk. The two surviving ones were children, aged 9 and 7, respectively, and consequently could not be depended on for much information. As a result, many very desirable details are lacking in this report. Through the kindness of Mr. B. R. Hart, Chief, Eastern District, United States Food and Drug Inspection, I was able to work with the government inspectors, and thus secure much information which would not otherwise be available. Inspectors Olof Olsen and F. L. Wollard, U. S. Bureau of Chemistry, the Fordham Hospital, the New York City Health Department, the Medical Examiner's Office, and Dr. Louis J. Ferrara offered all the assistance possible.

EPIDEMIOLOGY

The olives responsible for this outbreak were "giant" size, California ripe olives, packed in 14 ounce (net weight) glass, hermetically sealed jars. They were not the same brand of olives that were responsible for the outbreaks in Canton, Ohio, and in Detroit in August and October, 1919, respectively. The present available information makes it seem quite probable that they came from an entirely different section of California than the olives responsible for the first two outbreaks. The olives concerned in the present outbreak were packed by a California olive company for a New York City distributing company. They bore the private label of the latter company. The distributing company ordered the olives, Oct. 11, 1917, and received them, April 4, 1918, but they rejected this shipment because the olives were not of good quality, branding them as "impossible" and declining to put them on the market under their label. The olives were then placed in a New York warehouse by the California company. They were resold and placed on the market by the California olive company, which in the meantime had undergone a reorganization. After considerable shifting and circulation among several New York distributers and wholesale dealers, thirty cases, 720 bottles, of these olives, were sold, Oct. 28, 1918, to the retail dealer who, in turn, sold the infected jar to Dominick. The New York distributing company protested, not only to the California company, but also to dealers in New York, the sale of these olives which they had rejected, under their private label, but the labels were not removed, and the olives continued on the market. During the shifting and circulation of these olives, several of the persons who handled them stated that many of the jars were spoiled and unfit for sale. One man, on purchasing a retail grocery store, threw away thirty-seven jars because they were not in good condition. Whether or not any of these numerous spoiled jars contained *B. botulinus* will probably never be known. Of the thirty cases sold to the grocer who sold the olives to Dominick, only five and one-half cases, 131 of the original 720 bottles, were on hand when confiscated by the health authorities. The remaining 589 bottles had been sold to customers in the neighborhood, none of whom, however, had made any complaint to the storekeeper. Whether or not any illness had occurred in these homes, attributed to other causes, since the sale of these olives began (Oct. 28, 1918) was not ascertained.

The exact date on which Dominick purchased the olives that caused the outbreak is not definitely known, but he says it was sometime after Jan. 1, 1920. Thus it will be noticed that the jar of olives responsible for the outbreak had been packed for at least twenty-six months, for it had been in New York City since October, 1917.

Among the things commandeered by the detective at the D. home was one-half bottle of ripe olives and two empty olive jars of the same size and bearing similar labels. The tin cover of the half filled jar was missing, but two other tin covers were found each bearing the same batch number. In view of all the facts concerning these olives there is practically no doubt that they all came from the same batch. Dominick, before his death, stated that he had purchased these three jars of olives at the same store, one just before Christmas, one just after Christmas, and the third shortly after New Year's, 1920. They were carried to the D. home by Dominick as a delicacy, one jar at a time. Definite facts are not available, but it is reasonable to assume that one jar was consumed before another was opened, thus making it seem quite probable that the third jar was the one that contained the toxin.

As pointed out in the case histories, there is no definite proof that Mary, the first to die, ate ripe olives, but certainly all information available indicates that she opened this third jar of olives, January 8 or 9, and ate some of the olives, replacing the jar on its accustomed shelf, where it was later found by the other members of the family. The unsettled conditions and irregular status in the home following her death and funeral make it seem very probable that no olives were eaten until the following Tuesday night, January 13, when the rest of the family gathered at the home in the evening for supper. As accurately as could be attained, this meal consisted of macaroni with tomato sauce and a salad prepared from ripe olives, anchovies, pickled peppers, olive oil and vinegar. Dominick stated before his death that he prepared this salad, saying that the olives came from a jar taken from a shelf over the kitchen table, that this jar had been previously opened, and that "several" olives had been removed. He said that the other members of the family were seated about the table as he prepared this salad. Some of the olives were removed from the jar and placed on a plate from which he took them one at a time, to cut them up for the salad. According to him the other members of the family helped themselves to these olives while awaiting the completion of the salad. He did not know whether some ate more heartily than others. He did state, however, that he noticed nothing wrong about the odor or taste of the olives, but on the contrary found them 'very good,' saying that he liked them."

No statements concerning the odor and taste of the olives were obtained from other members of the family before they died. When asked if he washed the olives before putting them in the salad he nodded an affirmative answer, but this assertion is open to much doubt in view of the other facts of the case. Paul, the father, stated before his death that 'everybody' ate olives. Lena, 9 years old, developed no symptoms, but insists that she ate one whole olive which her father handed her at her request. When asked why she ate no more she simply stated that she 'didn't want any more,' but said that she found neither the t[illegible] nor the odor disagreeable [illegible] she [illegible] them.' She did not [illegible] that her brothers, Dominica and Antonio, were very fond of ripe olives, and that she saw them taking olives from the plate and open jar while the salad was being prepared She also said that her mother was very fond of olives, and that she had seen her, on several occasions, remove olives from an open jar and eat them

The exact hour at which this meal occurred is not known, but it is reasonable to assume that it was not before 6 p m Assuming such to be the case, definite symptoms of botulism had developed in all those who showed symptoms at all in from four to fifty hours after this meal

REPORT OF CASES

CASE 1—Mary, the mother of the family, was the first to become ill Information concerning her death is found in the following statement made by Dr L J Ferrara her physician

"Jan 10, 1920, I was called in at 8 a m and saw the mother, Mary, in bed suffering from a choking sensation, with partial blindness The history obtained was that she had been worrying and crying the entire night before Vomiting began at 10 p m January 9 I looked in her throat and found it practically normal I asked her to take a drink, which she was unable to swallow I then examined the eyes and found them to react to light, she could recognize me and various objects which I held up to her, she said her vision was blurred Temperature was normal Her pulse was about 80, snappy and bounding Reflexes were normal There was no tenderness or pain in the abdomen History as to possible poisoning from alcohol or food products was negative At 12 noon (of the same day) I was recalled and found on my arrival that the patient was dead

'On questioning the husband Paul stated that his wife had been treated two years ago for kidney trouble that since then she had had off and on puffiness of the eyes and some swelling of the limbs In view of this history I signed her death certificate as 'uremia chronic nephritis' ascribing the dimness of vision to albuminuric retinitis'

No definite data concerning the consumption of ripe olives by her is available but all the information at hand makes it seem quite probable that on January 8 or 9 she opened the contaminated jar of olives and ate two or three or more of them The fact that ripe olives had been kept in the house, that they always stood on a shelf over the kitchen table, and that Mary was particularly fond of them and had been observed to eat olives taken from such a jar on previous occasions, makes such an assumption quite reasonable This assumption is further substantiated by the fact that the jar of olives used later by the family in the salad was found open with "several' olives removed No definite statement as to the number actually missing could be obtained There is no way of telling how soon after eating olives her symptoms appeared or how long symptoms had been present before she was seen by her physician, although it is stated that she vomited ten hours prior to the visit of her physician It seems reasonable to estimate that death occurred fifteen or twenty hours after the onset of symptoms

CASE 2—Dominica a son aged 16 became ill Tuesday January 13, about 10 p m Dr Ferrara s statement concerning him is as follows

'I was next called January 14 at 7 a m, to see the son Dominica The history, obtained from the father and verified by the patient, was that he was seized on the evening of January 13 about 10 p m with a choking sensation and inability to swallow with a partial loss of vision vomiting and extreme weakness He was unable to talk, owing to the pharyngeal paralysis and wrote answers to my questions on a piece of paper His mental condition at the time was normal He did not complain of abdominal pains Dominica was in bed and was unable to open his eyes completely, having a ptosis of both upper lids His pulse was very weak, about 80 Temperature was normal There was no tenderness of the abdomen There was no diarrhea, the bowels not having moved at all He could recognize various objects, such as matches, pencil and paper but his vision was also dim I washed his stomach with plain water, and removed a brownish dark fluid, with a putrid smell 4 quarts of water being required before the liquid returned clear I put in through the tube a cup of strong black coffee to stimulate him and ordered whisky I sent an ambulance and had him removed to Fordham Hospital, where he arrived about 10 a m, and died within a few minutes (thirty-two) after his arrival"

The diagnosis on admission to the hospital was "paralysis of the throat' "migraine and 'hysteria' He failed to react to one thirtieth grain of strychnin sulphate subcutaneously He was mentally clear and conscious to the last, and there were no convulsions

The onset of symptoms occurred four hours after eating the olives, and death occurred twenty-four and one-half hours after the onset of symptoms or twenty-eight and one-half hours after ingestion of the olives Information obtained from other members of the family shows that Dominica was unusually fond of ripe olives and always ate freely of them whenever they were available This fact, together with the rapid onset of symptoms and the profuse vomiting (suggestive of gastric irritation due to a large amount of toxin) makes it seem quite probable that he partook more freely of the olives than the others It was the necropsy on his body which led to the suggestion of food poisoning and later to the diagnosis of botulism

CASE 3—Paul, the father aged 36, was the next member of the family to fall ill Wednesday afternoon, January 14 he noticed that he had considerable difficulty in expectorating When seen by his physician at 4 p m there was dimness of vision diplopia, marked prostration and weakness difficulty in swallowing and talking and thick glairy mucus in the mouth and throat which could be evacuated only with great difficulty He immediately walked to the Fordham Hospital, the admission diagnosis being paralysis of throat and partial blindness His pupils reacted only sluggishly to light and accommodation Other reflexes were not influenced He vomited a small amount of material which was said to have a putrid odor There was no diarrhea, but instead marked constipation There soon developed ptosis of both eyelids and complete aphonia He also complained of a distressing sense of pressure or weight in the epigastrium Perspiration became very profuse Edema of the soft palate and pharynx developed As respiration became more difficult cyanosis became more marked, and death due to respiratory paralysis, resulted Mental clearness was present throughout

The highest recorded temperature was 99 8 F The pulse rate never exceeded 92 beats a minute and the greatest respiratory rate recorded was 24 a minute The white blood count was found to be 10,600 The differential blood count was not abnormal and presented nothing of interest Lumbar puncture revealed a sterile and otherwise negative fluid under pressure sufficient to cause one-half inch projection of the stream The urine presented nothing of interest The onset of symptoms occurred twenty-two hours after eating the olives and death occurred forty hours after the onset of symptoms or sixty-two hours after ingestion of the olives

CASE 4—Antonio a son aged 13 years, became ill at 8 p m Wednesday January 14 He became much alarmed when a sensation of choking developed in his throat, and at 4 45 a m, January 15, walked into the Fordham Hospital His pupils were dilated and reacted sluggishly to light and accommodation Other reflexes were not obtained There was ptosis of both eyelids, dimness of vision, great weakness and prostration, difficulty in swallowing and speaking with later development of complete aphonia constipation, thick, glairy mucus in the throat, profuse perspiration and marked respiratory difficulty and cyanosis, which progressively increased as death due to respiratory paralysis approached. At no time was mental clearness clouded.

The highest figures recorded for temperature, pulse and respiration were 100.2 F., 120 and 28, respectively. The pulse was irregular, but of good volume. The Wassermann test was negative. The urine showed a very few pus cells, but was otherwise uninteresting.

The symptoms appeared twenty-six hours after he had eaten the olives. Death occurred forty-three and one-half hours after the onset of symptoms, or sixty-nine and one-half hours after ingestion of the olives. It is not possible to say how many olives this patient consumed, though the available information makes it seem quite probable that he ate freely of them.

CASE 5.—Angelo, a brother of Paul, aged 26, also became ill at 8 p. m. Wednesday, January 14. His first symptoms were dryness of the throat, thick speech, difficult expectoration and a choking sensation. He was admitted to the Fordham Hospital at 3:30 p. m. January 15, the admission diagnosis being "paralysis of throat muscles." His pupils were dilated, reacting only sluggishly to light and accommodation. Other reflexes were present and active. There was ptosis of both eyelids, dimness of vision, great muscular weakness and prostration, difficult speech leading to complete aphonia, dysphagia and some pain in the throat. Constipation was marked. The thick glairy tenacious mucus was present in the throat. There was a distressing sense of pressure or "weight at the pit of the stomach." Profuse perspiration also was present. The difficulty in respiration grew progressively worse and cyanosis developed, culminating in respiratory paralysis with death, the patient maintaining mental clearness until shortly before death.

Temperature, pulse and respiration were not recorded in excess of 99.6 F., 120 and 24, respectively. The urine, other than a very few pus cells, presented nothing of interest.

The onset of symptoms occurred twenty-six hours after the olives had been eaten. Death occurred seventy-two hours after the onset of symptoms, or ninety-eight hours after ingestion of the olives.

CASE 6.—Dominick, aged 46, brother of Paul, walked into the Fordham Hospital at 4:30 a. m., Friday, January 16, complaining of a choking sensation and dimness of vision. On Thursday, January 15, he had felt considerable apprehension, and somewhat indefinite indisposition, but noticed nothing definite until about 8 p. m., when there was difficult expectoration and some dimness of vision. He followed rapidly the course of the others, presenting dilated pupils which reacted sluggishly to light and accommodation but no involvement of other reflexes, diplopia, ptosis of both eyelids, great muscular weakness and prostration, difficulty in speaking and swallowing, constipation, mucus in the throat, profuse perspiration, a sense of chilliness, and gradual failure of respiration with accompanying cyanosis, leading to the terminal respiratory paralysis. He became somewhat irrational about an hour before death.

The highest recorded values for temperature, pulse and respiration were 99.6, 120 and 24, respectively. The urine contained a very few pus cells, but was otherwise negative.

The first symptoms appeared fifty hours after he had eaten the olives. Death occurred seventy-four hours after the onset of symptoms, or 124 hours after ingestion of the olives.

This patient stated before his death that he felt quite sure he had eaten only about two olives which had been chopped up and put in the salad.

CASE 7.—Lena, aged 9, a daughter, was taken to the Fordham Hospital January 14 with her father. She was presenting no symptoms at this time but was admitted for observation merely as a precautionary measure. She was quite positive that she had eaten one ripe olive January 13 during the preparation of the salad but had eaten none of the salad. During the night of January 17 it was felt by some of the physicians that she showed some hesitancy in speech and slight ptosis of the right eyelid in addition to constipation. There was, however, no concensus as to the presence of these symptoms, so that it seems impossible to state with finality that she exhibited definite symptoms. She was later discharged from the hospital apparently none the worse for her experience.

SOME DETAILS OF THE OUTBREAK

Name and Age	Status in Family	Occupation	Date Olives were Eaten		Number of Olives Eaten	Onset of Symptoms			Adm to Hospital		Death					Symptoms and Physical Signs																						
			January	Hour		January	Hour	No of Hours after Eating Olives	January	Hour	January	Hour	No of Hours after Onset of Symp	Immediate Cause	No of Hours after Eating Olives	Ptosis	Diplopia	Dimness of Vision	Dilatation of Pupils	Pupillary Reaction	Weakness Prostration	Difficult Speech	Aphonia	Dysphagia	Mucus in Throat	Choking Sensation	Constipation	Vomiting	Epigastric Pressure	Mental Clearness	Profuse Perspiration	Sense of Chilliness	Difficult Respiration	Terminal Cyanosis	Highest Temperature	Highest Pulse Rate	Highest Respiratory Rate	Reflexes
Mary 33	Mother	Housewife	8 or 9	?	?	9	10 p m ?	?			10	12 m ?	15 or 20?	Respiratory paralysis	?	+		+			+	+		+	+		+	+										
Dominica 16	Son	Shoemaker	13	6 p m	Salad and Olives	13	10 p m	4	14	9:55 a m	14	10:27 a m	24½	Respiratory paralysis	28½	+		+			+	+		+	+		+	+		+			+	+				
Paul 36	Father	Shoemaker	13	6 p m	Salad and Olive	14	4 p m	22	14	4:40 p m	16	8:05 a m	40	Respiratory paralysis	62	+	+	+		Slug	+	+	+	+	+	+	+	+	+	+	+	+	+	+	99 8	92	24	+
Antonio 13	Son	School	13	6 p m	Salad and Olive	14	8 p m	26	15	4:45 a m	16	3:30 p m	43½	Respiratory paralysis	69½	+		+	+	Slug	+	+	+	+	+	+	+			+	+	+	+	+	102 4	120	28	—
Angelo 26	Brother of Paul	Shoemaker	13	6 p m	Salad and Olives	14	8 p m	26	15	3:30 p m	17	8:00 p m	72	Respiratory paralysis	98	+		+	+	Slug	+	+	+	+	+	+	+		+	+	+	+	+	+	99 6	120	24	+
Dominick 46	Brother of Paul	Shoemaker	13	6 p m	Salad only	15	8 p m	50	16	4:30 a m	17	10:11 p m	74	Respiratory paralysis	124	+	+	+	+	Slug	+	+		+	+	+	+			±	+	+	+	+	98 9	120	30	+
Lena 9	Daughter	School	13	6 p m	One olive only				14	4:40 p m																												
Joseph 7	Son	School			None																																	

Joseph, aged 7, a son was taken to the home of friends after his mother's funeral, and was not present, January 13, when the other members of the family became infected. He ate no olives and developed no symptoms.

SYMPTOMS AND PHYSICAL SIGNS

The symptoms and physical signs were much the same in all six cases. As stated above, the onset of symptoms varied from four to fifty hours after ingestion of the contaminated food. In general, the onset was gradual and not of such a nature as to cause apprehension on the part of the patient. Reference to the accompanying chart and the individual case histories will reveal the details of each case.

The incidence and progression of symptoms was not identical in all the cases, but followed the same course in general. The first intimation of trouble seemed to be rather an indefinite indisposition, followed rapidly by muscular weakness which gradually increased to great prostration. Difficulty in expectorating thick speech, dryness of the mouth and dysphagia were among the first symptoms noted, seemingly due to mucus in the throat and perhaps also to beginning paralysis of the pharyngeal muscles. As the disease progressed the mucus became thicker, glairy and more tenacious, and could not be evacuated either up or down. It was the source of much discomfort, and the patients made vain efforts to remove it with their fingers or handkerchiefs. As the paralysis of the muscles of the throat increased, swallowing became more difficult and the ability to speak diminished toward an ultimate complete aphonia. A sensation of choking, with more or less sense of constriction about the throat, was noticed early in the disease by four of the patients.

The various eye symptoms were among the earliest manifestations. Dimness of vision, a blurring and mistiness, was noted by all the patients. Diplopia was remarked by only two of the six, but it is quite probable that it was present in the others. Dilated, sluggishly reacting pupils were observed in three cases. Other reflexes were present and active in three of the four cases examined. Ptosis of the eyelids invariably developed. Nystagmus was observed in one case.

Vomiting occurred in three of the cases and as far as the evidence was available was associated with large doses of toxin, which apparently produced gastric irritation prior to paralysis. In this outbreak as in the Detroit cases reported by Jennings, Haass and Jennings,[1] the patients who vomited at the onset died sooner than the others. Diarrhea was not present in any case but, on the contrary, constipation was evident in all, evidence which may be interpreted as local peristaltic paralysis. A feeling of pressure and "weight at the pit of the stomach" was remarked by two of the patients. A feeling of chilliness and profuse perspiration was present in four cases. Mental clearness, maintained until shortly before death, was strikingly characteristic. All the patients were drowsy and somewhat comatose immediately before death. One patient became somewhat irrational about an hour before death. Dyspnea did not manifest itself so much in rapidity as in difficulty of breathing. The highest respiratory rate recorded for any of the six patients was 30 a minute. The accessory muscles of respiration were called more and more into play as the intoxication progressed, inspiration becoming more and more difficult and finally ceasing quietly when the muscles refused to function any longer. Cyanosis was observed in all cases as respiration weakened and the end approached. Thirst, vertigo, abdominal pain and diarrhea were absent in all cases.

The pulse remained of good volume and good quality throughout, although somewhat rapid and variable in rate. The highest rate recorded was 120 a minute. The temperature reaction was not remarkable, 102.4 F. being the highest recorded, and this followed the intravenous injection of antitoxin. A leukocyte count was made on only one patient, and this was found to be 10,600, the differential count was not abnormal. A lumbar puncture on the same patient revealed nothing other than somewhat increased pressure. The urine was negative except for a very few pus cells found in three of the four patients whose urine was examined.

TREATMENT

Elimination, stimulation and antitoxin were the fundamental bases of treatment. Stimulants such as strychnin sulphate, atropin, camphor-in-oil, digitalis and coffee enemas were administered as it seemed advisable. Inhalation of oxygen was also used for short periods. Gastric lavage was performed as soon as the patient reached the hospital. Cathartics for the most part, could not be swallowed. Magnesium sulphate and croton oil, when introduced through the stomach tube, brought no results. High colonic enemas usually brought good results. Nutrient enemas were also used, for the patients had difficulty in swallowing even liquids. Warm blankets contributed much to their comfort.

Antitoxin was not available until four patients were dead and one other was so far gone that he was past aid. This left only one patient, exhibiting definite symptoms, to whom the serum was administered. This patient was Dominick, aged 46. At the time the antitoxin was given, just forty-eight hours after the onset of symptoms, he was presenting the following manifestations of the disease: dimness of vision, diplopia, ptosis of both eyelids, great difficulty in speaking, inability to swallow, much glairy, tenacious sputum in the throat, great prostration and weakness, profuse perspiration, and respiratory difficulty. Twenty-five c.c. of serum obtained from Professor Graham of the University of Illinois were injected intravenously at 7:15 p. m. At 8:30 p. m. there was no apparent change in his condition. At 9:30 p. m. the temperature, pulse and respiration were recorded as 102.4 F., 124 and 30, respectively. The patient grew gradually weaker and ceased to breathe at 10:11 p. m., three hours after the antitoxin was administered.

Lena, the 9 year old daughter who ate one olive, was given two intravenous injections of 15 c.c. each about twelve hours apart, of an antitoxin received from the Bureau of Animal Industry at Washington, D. C. As mentioned in the case history, it does not seem possible to state that she was presenting definite and clear-cut symptoms. Such symptoms never did develop, but to what degree the antitoxin was responsible for their failure to develop will probably never be known. It is not improbable that symptoms would not have developed if no antitoxin had been administered. Joseph, aged 7, was given one 15 c.c. intravenous injection of the same serum, merely as a prophylactic measure, for at that time there was some uncertainty as to whether or not he had partaken of any of the olives

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[1] Jennings, C. G.; Haass, E. W., and Jennings, A. F.: An Outbreak of Botulism, J. A. M. A. 74: 77 (Jan. 10) 1920.

Taken all in all, the serum therapy was inconclusive The serum administered to Dominick was probably given too late to expect favorable results Furthermore, the serum administered was not prepared from a homologous strain of *B botulinus,* a fact that would render it ineffective in this case As stated above, the Graham antitoxin failed to protect laboratory animals against the toxin present in the olives The serum administered to Lena, presumably derived from a homologous strain, cannot be said definitely to have aborted the development of the disease

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THE EYE AS A PORTAL OF INFECTION IN RESPIRATORY DISEASES

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AND
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The main channel of infection in respiratory diseases, and especially in pulmonary tuberculosis, has confused scientific men for a long time An effort to avoid infection, especially in the acute diseases, has led to the introduction of many methods of protection, the latest of which is the gauze mask As complicated as this problem has been in the study of the acute respiratory diseases, it has proved even more baffling and confusing in pulmonary tuberculosis, which disease accounts for at least three fourths of the deaths attributed to the tubercle bacillus Much of the confusion is of course due to the improper comprehension of the problem at hand and the application of unpractical methods of experimentation and conclusions drawn therefrom Thus have been overemphasized at intervals prenatal infection, alimentary infection and other phases

The problem that confronts us in the prophylaxis of pulmonary tuberculosis though differing slightly, is practically the same as that in the acute respiratory diseases We have to deal in both cases with organisms highly virulent[1] and specific or parasitic for the host, taking hold at the least provocation and producing clearly defined and characteristic pathologic changes, in contradistinction to those produced by the more saprophytic micro-organisms, which occur widely distributed in nature or which cause spontaneous disease in other species

MODE OF INFECTION IN TUBERCULOSIS

Controversy has revealed diverse opinions regarding the exact portal of infection in pulmonary tuberculosis Koch in 1884 maintained that tubercle bacilli entered the lungs with the inspired air and produced their lesions wherever they came to rest in the lungs This view found almost universal acceptance for many years and the dispute centered about the question as to whether dry and pulverized sputum (Cornet), or fluid droplets (Flugge) freshly expelled from the mouths of phthisical patients, play the more important part in propagating the disease As a matter of historical interest it may be noted that shortly after the rediscovery of the infectious nature of tuberculosis by Villemin, Chauveau in 1868 held that the alimentary canal might be the portal of entry in tuberculosis even more frequently than the air passages, an idea probably made evident by the large percentage of ingestion tuberculosis from bovine sources in those days In 1904, von Behring uncompromisingly maintained the intestinal origin of pulmonary tuberculosis irrespective of age Calmette and Guerin[2] in 1905 strongly supported this theory, though they did not agree with von Behring's statement that such infection occurs commonly in infancy On the contrary, they believed that the lymphatic glands are more permeable in the adult than in the child, and that infectious micro-organisms may pass through them from the intestines to the lungs by way of the thoracic duct To add to the confusion of this entire problem is the rise of the theory of latency or the residence of tubercle bacilli in the lymph glands and tissues free from all anatomic changes, as maintained by Baumgarten Such latency has been recently observed by Wang,[3] who found bacilli in three of thirty-two cases studied He reviews the literature, but in all of the cases reported the time element in man is impossible of determination and Wang found that tubercle bacilli could be latent in guinea-pigs as long as 104 days (a comparatively short time of study for enlightenment in this problem)

THE EYE AS A PORTAL OF INFECTION

In considering so important a problem as the avenue of infection in pulmonary tuberculosis, it is conceivable that the question resolves itself not so much into producing effects at the expense of practicability as to considering the problem from the standpoint of facts For a proper interpretation of facts the available data seem still to be lacking in definiteness, since dosage and the possibility and repetition of infection have been left entirely out of consideration In the same manner a consideration of the eye as a channel of infection had been entirely neglected until Maxcy[4] recently demonstrated that this might be one of the least protected regions of the body, giving access to pathogenic micro-organisms by droplet infection, especially from man to man He found that *B prodigiosus* introduced into the conjunctival sac can be recovered from the nose in five minutes, from the throat in fifteen minutes, and from the stool in twenty-four hours With the mouth and nose protected by gauze, organisms were found in the nose and nasopharynx after droplet spraying at a distance of from 3 to 4 feet

Maxcy states that from the nasopharynx the micro-organisms may follow one of three courses 1 They may pass outward through the mouth with the sputum 2 They may be carried into the larynx and reach the lower respiratory tract 3 They may be carried downward into the esophagus with the swallowing movements, and perish in the intestinal canal or be excreted with the feces He says that the latter is probably the most frequent course, as he obtained the bacilli in one of three subjects whose stools were tested

A number of points of direct interest in the problem of the eye as an avenue of infection were left unsettled by Maxcy These factors seemed worthy of further investigation whether the micro organisms really ever reached the respiratory tract below the epiglottis and vocal cords and how long they remained there, what course the micro-organisms followed after instillation in either eye, how long they persisted in the nose, pharynx or larynx (the studies reported by Maxcy were of only thirty minutes' duration), and since it has been suggested, though not authentically demonstrated, that micro-organisms can enter the lungs by way of the intestinal tract in experimental animals whether this could occur in man It was with a view to corroborating and elaborating the work initiated by Maxcy that the experiments to be described were performed

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* From the Research Laboratories National Jewish Hospital for Consumptives

[1] Corper H J Are All the Tubercle Bacilli Found in the Sputum Virulent? J A M A 70 1281 (May 4) 1918

[2] Calmette A and Guerin C Ann de l'Inst Pasteur 19 601 1905

[3] Wang C Y Lancet 2 517 (Sept 2) 1916

[4] Maxcy K F The Transmission of Infection through the Eye J A M A 72 636 (March 1) 1919

EXPERIMENTAL DATA

The experiments were carried out on patients with pulmonary tuberculosis who were capable of expectorating (lung) sputum These people were chosen for the twofold purpose of obtaining satisfactory pulmonary material and also with a view to using patients with a respiratory system of reduced protective mechanism such as may occur acutely at any time in any person but not often in a manner available for satisfactory experimental purposes

Time Factor —In order to gain an idea of the rate of appearance and disappearance of the micro-organisms from the nose and various parts of the pharynx after eye instillation, a series of seven cases were thus tested with the results given in Table 1

TABLE 1—APPEARANCE AND DISAPPEARANCE OF B PRODIGIOSUS FROM THE NASOPHARYNX AFTER EYE INSTILLATION

	Appearance		Disappearance	
Location	Earliest	Latest	Earliest	Latest
Nose	5 min	15 min	45 min	2¼ hrs
Pharynx	10 min	15 min	1½ hrs	2¼ hrs

A brief survey of this table indicates that *B prodigiosus* appears and disappears from the nose and throat after eye instillation with fair regularity and within a definite time in different persons

TABLE 2—DISTRIBUTION OF B PRODIGIOSUS IN THE MOUTH AFTER RIGHT EYE INSTILLATION

	Time Interval after Instillation in Hours					
Location	Case	½	1	1½	2	2½
Hard palate	N	—	—	—	—	—
	St J	—	+	—	—	—
Uvula	N	+	—	—	—	—
	St J	—	+	+	—	—
Right tonsil	N	+	+	+	+	—
	St J	—	+	+	—	—
Left tonsil	N	—	—	—	—	—
	St J	—	—	—	—	—
Posterior nasopharynx	N	+	+	+	+	+
	St J	+	+	+	+	—

Course of Micro-Organisms —In order to determine whether the micro-organisms instilled into the eye follow a definite course, a suspension of *B prodigiosus* was dropped into the right eye, and various parts of the nasopharynx were tested with the results shown in Table 2 An examination of this table reveals the tendency of the micro-organisms to follow definite paths If instilled into the right eye the organisms are found on the right side of the nasopharynx and on the right tonsil, while the left side is free from them as are also the anterior portions of the mouth Instillations of strong solutions of argyrol into the eye were also found to follow a similar definite course in the nasopharynx

The direct determination of the presence of micro-organisms in the trachea and on the vocal cords, which might indicate a downward passage into the lower respiratory tract after eye instillation, is admittedly difficult, so that a number of procedures were employed for this purpose It would be unreasonable to expect the determination of the presence of *B prodigiosus* in the washed sputum itself, and their presence in the unwashed sputum, especially while the nasopharynx was still positive, is obviously open to criticism There were two other procedures to be considered the passing of a tube into the trachea, obtaining through this tube a swab of the trachea and vocal cords, and the examination of the (lung) sputum after the nasopharynx and mouth were proved negative by careful and repeated examinations

TABLE 3—LAST POSITIVE CULTURE OF B PRODIGIOSUS FROM PHARYNX AND FROM SPUTUM AFTER EYE INSTILLATION IN HOURS

From Pharynx	From (Lung) Sputum
1½	2
1¾	1¼
1½	—*
1½	2½
2	2
1½	2
2	2
1¾	—*
2¼	2½
2¼	2½
2¼	2¼
2	—*
2	—*
2¼	2¼
1¾	2¾
2½	—*
2	2¾
2	—*
1¾	—*

In these cases the sputum was negative before the pharynx

A series of ten cases were examined by passing a metal tube into the trachea from four to six hours after the instillation of *B prodigiosus* into the eye The nasopharynx was negative for *B prodigiosus* in these cases after about two hours It was found that only a small area could be thus swabbed, but two of the ten cases revealed positive cultures from the vocal cords, one within six hours, and the other four hours after eye instillation In a series of twenty cases the nasopharynx and sputum were examined to determine whether the sputum was positive for *B prodigiosus* after eye instillation for a longer period of time than was the nasopharynx The time of appearance of the last positive cultures from the nasopharynx and pharynx and from the sputum in the twenty cases is given in Table 3

Of the twenty cases studied, there were seven cases, or 35 per cent, in which the lung (sputum) specimens were positive on repeated examination after the pharynx was negative If these seven cases are considered the lung specimen was positive on an average of 0 6 hours (minimum, one-quarter hour, maximum, one hour) after the pharynx was negative on repeated examination One case in the series was of interest because of the fact that a definite positive culture of *B prodigiosus* was obtained from the sputum one week after the instillation into the eye, the pharynx being repeatedly negative in the interval following the first two hours and also at the time of obtaining the positive culture from the sputum Three other cases, observed through an interval of nine days after eye instillation, gave negative sputums for *B prodigiosus* after the initial few hours following instillation

DISTRIBUTION AFTER INGESTION

The study of the distribution of *B prodigiosus* after ingestion was divided into the persistence of the organism in the mouth, the appearance in the sputum, and the appearance in the feces after ingestion In none of the cases shown in Table 4 was *B prodigiosus* found in the sputum during the first two hours after the mouth and pharynx were negative

TABLE 4—PERSISTENCE OF B PRODIGIOSUS IN THE MOUTH AFTER ORAL INGESTION IN HOURS

	Time of Persistence		
Number of Cases	Shortest	Longest	Mean
11	4¼	5	4½

In four cases the nose was examined for *B prodigiosus,* and in no case were the organisms found within one hour after oral ingestion while the mouth and pharynx were positive during this time

In a series of ten cases, *B prodigiosus* was given by mouth and the sputum and feces were examined after six hours and at daily intervals for ten days In none of these cases was a positive culture obtained from the sputum, the organisms were recovered from the feces in only two of the ten cases during the first twenty-four hours, after which no more positives were obtained

TABLE 5—EFFECT OF HYDROCHLORIC ACID AND HYDROCHLORIC ACID AND PEPSIN ON THE VIABILITY OF B PRODIGIOSUS IN VITRO

	Concentration of Hydrochloric Acid											
	Alone (Normal Per Cent)*						With 0.2 Per Cent Pepsin in Addition					
Exposure at 37 C	0	0 5	1 0	1 5	2 0	2 5	0 0	0 5	1 0	1 5	2 0	2 5
5 min	+	+	+	+	—	—	+	+	+	+	+	—
15 min	+	+	+	+	—	—	+	+	+	+	+	—
25 min	+	+	—	—	—	—	+	+	+	+	+	—
40 min	+	+	—	—	—	—	+	+	+	+	—	—
60 min	+	+	—	—	—	—	+	+	+	+	—	—
2 hr	+	+	—	—	—	—	+	+	+	—	—	—
3 hr	+	+	—	—	—	—	+	+	+	—	—	—

* One per cent normal acid is equivalent to 0 0365 per cent by weight of hydrogen chlorid and the other figures are in proportion

In order to find a possible explanation for the inability to recover *B prodigiosus* from the feces after the ingestion of large amounts of the culture the effect of various concentrations of hydrochloric acid and of a mixture of pepsin and hydrochloric acid on suspensions of the bacilli was studied with the results given in Table 5 An examination of this table reveals that the cultures of *B prodigiosus* used in these experiments are highly susceptible to the action of hydrochloric acid alone or in the presence of pepsin, 0 07 per cent by weight of hydrochloric acid killing within five minutes

SUMMARY

The eye must be considered as one of the important portals of infection in respiratory diseases and although the greater part of the infectious material entering by way of the eye is subsequently swallowed and passes into the gastro-intestinal tract a small but definite portion of it finds its way into the larynx and trachea, where it may persist even as long as a week (as was noted in one case studied)

In its passage from the eyes the infectious material traverses a definite channel dependent on which eye it has entered or into which it has been introduced Infectious material that is ingested is far less likely to enter the respiratory tract than that entering by way of the eye or nose

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MATERNAL MORTALITY

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There is a general impression among physicians that there has been a great improvement in maternal mortality during the past half century This impression is based on the present favorable maternal mortality in hospital and dispensary services and not on a comparison of mortality and birth statistics

In 1917, Grace L Meigs[1] made a careful study of maternity mortality from all conditions connected with childbirth from the available records of the United States and certain other countries In answer to the question, Is the death rate from childbirth falling? she says (page 17)

> According to the evidence available these death rates are apparently not decreasing During the twenty-three years ending in 1913, in this country no definite decrease in the death rate from the diseases caused by pregnancy and confinement can be demonstrated, nor can any decrease in the death rate from puerperal septicemia be shown

She says further of the deaths from diseases of pregnancy and the puerperal state (page 22)

> In order to make possible a comparison of the death rate from these causes for fifteen foreign countries with those for the United States an average rate has been computed for the years 1900 to 1910 for each of the countries using the same method as that in use in the United States When the sixteen countries studied are arranged in order with the one having the lowest rate first the death registration area of the United States stands fourteenth on the list Only two countries, Switzerland and Spain have higher rates many of the countries however show rates differing but little from that of the United States Markedly low rates are those of Sweden (6) Norway (7 8) and Italy (8 9) a strikingly high rate is that of Spain (19 6) [The ten year average for the United States was 14 9 per hundred thousand population (Table 1)]
>
> The death rate from child birth per thousand live births is not available for the death registration area of the United States but can be given only for the small number of states and cities included in the provisional birth registration area and for one year 1910 This rate 6 5 is considerably higher than that for 1910 of any of the countries studied

However, a birth registration area was established in 1915 and eventually there will be records from which it will be possible to compute our maternal mortality on the basis of the number of live births A comparison of the birth rate in the birth registration area with the mortality rate in the death registration area for 1915 and 1916 would indicate that in 1915 one mother died in every 164 live births and in 1916 one for every 152 live births The ratio in 1910 was one mother for every 154 live births

During the past thirty years deaths from many diseases have been reduced to a fraction of their former toll Between the years 1890 and 1915 the records of the death registration area of the United States show that the deaths from tuberculosis per hundred thousand population dropped from 252 to 145.8, pneumonia, from 186.9 to 82.9, diphtheria and croup, from 97.8 to 15.7, diarrhea and enteritis under 2 years, from 139.1 to 59.5, typhoid fever, from 46.3 to 12.4 The death rate from diseases caused by pregnancy and the puerperal state in 1890 was 15.3, while in 1915 it was 15.2 The maternal mortality rate in 1916 was 16.3 per hundred thousand population

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[1] Meigs Grace L Maternal Mortal [illegible] Labor Children Bureau Miscellaneous Series [illegible]

In the face of all available statistics, we are not justified in believing that the average woman is benefited by the advances that have been made in scientific obstetrics during the past half century Few realize that for all women of childbearing age, childbirth is *the second greatest cause of death* For the year 1915 in the death registration area of the United States, there were, among women aged 15 to 45, 29,200 deaths from tuberculosis, 10,134 from childbirth, of which 4,173 were from puerperal septicemia, 8,766 from the various circulatory disturbances, 6,458 from all digestive disturbances, 5,549 from pneumonia, all types, 5 424 from cancer and other malignant tumors, while for these ages syphilis was reported as the cause of death 647 times and gonorrhea 174 times

Additional data to prove the great danger of pregnancy and labor are given in Table 2, which is based on a medico-actuarial mortality investigation The table has been modified and rearranged to make it available for general study and comparison with other statistics This insurance record shows that for all women insured during the childbearing period, the diseases of pregnancy and the puerperal state are the second greatest cause of death, and for all women insured, maternity ties with nephritis and Bright s disease as the fifth greatest cause of death

TABLE 1—AVERAGE DEATH RATES PER HUNDRED THOUSAND POPULATION IN CERTAIN COUNTRIES FROM DISEASES CAUSED BY PREGNANCY AND CONFINEMENT
1900 TO 1910*

	Death Rate per Hundred Thousand Population from Diseases Caused by Pregnancy and Confinement		
Country	Total	Puerperal Septicemia	All Other
Sweden *	6.0	2.4	3.6
Norway	8.1	4.1	3.9
Italy	8.9	3.3	5.7
France†	10.3	4.8	5.5
Prussia‡	10.4	4.7	5.8
England and Wales	11.1	4.7	6.5
New Zealand	12.4	3.1	9.3
Ireland§	12.9	4.5	8.4
Hungary	13.3	3.6	9.8
Japan**	13.3	4.5	8.8
Australia‖	14.1	4.7	9.4
Belgium‡	14.8	5.8	9.0
Scotland**	14.8	5.5	9.4
United States¶	14.9	6.5	8.3
Switzerland	15.2	6.4	8.8
Spain**	19.6	12.3	7.3
Austria	#	6.6	#

* Table XII p 56 of Maternal Mortality,' by Meigs (Footnote 1)
** Rates based on figures for 1901 to 1910
† Rates based on figures for 1906 to 1910
‡ Rates based on figures for 1903 to 1910
§ Rates based on figures for 1902 to 1910
‖ Rates based on figures for 1907 to 1910
¶ Rates based on figures for death registration area which increased from year to year In 1900 it comprised 40.5 per cent of the total population of the United States and in 1910 58.3 per cent
# Figures not available

A study of these insurance figures suggested that from insurance records additional valuable information might be obtained regarding the frequency with which individual families are affected by death from common causes such as tuberculosis, childbirth and malignant tumors Through the courtesy of Dr J W Fisher, medical director of the Northwestern Mutual Life Insurance Company of Milwaukee, I have examined the family records of 10,000 applicants The first series of 5,000 showed that one applicant for life insurance in every seventeen reported a mother or sister or both as having died from the immediate effects of childbirth, 1 in 27 from tuberculosis, and 1 in 47 from cancer or other malignant tumor The second series of 5,000 cases showed childbirth 1 to 17.7, tuberculosis 1 to 29.7, and malignancy 1 to 42.7 In view of the similar ratios in the two series of 5,000 each, it was not considered advisable to give more time to this line of investigation

TABLE 2—MOST COMMON CAUSES OF DEATH AMONG INSURED WOMEN IN THE UNITED STATES*

	Percentages of Total Deaths of Women Insured Age at Time of Applying for Insurance				
Cause of Death	15-29	20-44	15-44 Average	45 and Over	All Ages Average
Tuberculosis of the lungs	27.2	13.9	20.5	4.0	15.0
Cancer and other malignant tumors	2.7	11.8	7.3	13.3	9.3
Pneumonia	6.1	7.5	6.8	10.7	8.1
Organic diseases of the heart	3.3	5.3	4.3	10.7	6.4
Diseases of pregnancy and puerperal state	12.6	5.6	9.1		6.1
Nephritis and Bright s disease	4.2	6.4	5.3	7.4	6.1
Typhoid fever	6.3	4.3	5.3	1.3	4.0
Cerebral hemorrhage and apoplexy	1.5	3.9	2.7	10.3	5.2
Appendicitis and typhlitis	2.3	1.5	1.9	0.3	1.4
Diseases of the uterus	2.2	3.3	2.8	1.0	2.2
Cirrhosis of the liver	0.4	0.8	0.6	1.0	0.7
Diabetes	0.7	0.9	0.8	1.8	1.1
Suicide	2.1	1.4	1.7	0.5	1.3
Accident	3.7	4.0	3.8	2.6	3.4
All other causes of death	24.7	29.4	27.0	35.1	29.7
	100.0	100.0	100.0	100.0	100.0

* This table does not indicate the ages of the women at the time of death The table is based on the Medico Actuarial Mortality Investigation compiled and published by the Association of Life Insurance Medical Directors and the Actuarial Society of America New York 2 52, 1913

The examination of 10,000 family histories as given by applicants for life insurance would seem to indicate that among the class of men who have applied for life insurance during recent years, maternity has been a cause of death in more families than either tuberculosis or malignant tumors In comparing these figures with figures already given from the actual numbers of deaths based on the causes recorded on the death certificates, it must be remembered that tuberculosis is most frequent and most fatal among the very poor—a class excluded from the life insurance records except as a percentage of applicants may have been born in poverty either in this country or abroad Another and possibly more important reason for the great frequency of childbirth over tuberculosis arises in the practice of physicians in giving tuberculosis or other general cause on the death certificate of the woman who dies shortly after delivery without reference to the childbirth The layman, on the other hand, remembers the childbirth and not the cause of death recorded on the death certificate

The records of large maternity hospitals indicate that most of the deaths from puerperal sepsis are preventable when a rigid surgical technic is employed in the delivery room, and that many of the deaths from other complications of pregnancy, labor and the puerperium are unnecessary The continued high maternal mortality constitutes a standing reproach to all civilized peoples in general, and to the medical profession in particular

The teaching of obstetrics has perhaps not kept pace with that of general medicine and general surgery, but for this the teachers of obstetrics are only partially responsible Obstetrics has always been the most time consuming and at the same time the poorest paid work a physician undertakes Comparatively few physicians have specialized in this branch of surgery Hospital facilities for obstetric cases are most inadequate when compared with those for general surgical or medical cases Comparatively few hospital interns have any real training in obstetrics Most physicians in general practice have to handle all types of labor with little training and under the most unfavorable conditions

The present need in obstetrics is not so much the discovery of the cause of certain rare and obscure conditions, but rather the application of present knowledge The infection of obstetric patients should be prevented by elimination of the unclean midwife—both male and female This may be accomplished by systematic and long continued education of the people and the profession The toxemias of pregnancy should be prevented through careful prenatal supervision Most of the severe toxemias are preventable The delivery mortality and morbidity should be reduced to the minimum by ample hospital facilities There is no longer any question about going to the hospital for even the most simple operation Why continue the practice of doing obstetric surgery in a home with lack of facilities and questionable asepsis?

SUMMARY AND SUGGESTIONS

1 Mortality statistics show that for women of childbearing age (15 to 45), childbirth is the second greatest cause of death The records of life insurance companies show that for all women who are insured under 45 years of age, the diseases of pregnancy and the puerperal state are the second greatest cause of death Childbirth ties with nephritis and Bright's disease for fifth place as a cause of death among insured women

2 A study of 10,000 family histories as given by applicants for insurance in the Northwestern Mutual Life Insurance Company shows that one in every 17 3 associates the death of a mother or sister or both with childbirth, 1 in 28 3 with tuberculosis, and 1 in 45 with malignancy It is believed that a considerable percentage of these deaths from childbirth were recorded on the death certificates as being due to tuberculosis, heart disease, etc, and that the applicant for insurance remembered the associated childbirth and not the cause of death given on the death certificate Our present mortality records do not show the frequency with which childbirth is a contributing cause of death

3 The present maternal mortality may be greatly reduced by application of our present obstetric knowledge Systematic education similar to that used in combating tuberculosis is needed

4 Increased hospital facilities and nursing service must be provided The state should furnish assistance in giving poor women the proper care during pregnancy, labor and the puerperium For the present more hospital beds may be made available by sending women home by ambulance early in the puerperium and caring for them through an outpatient nursing service

5 The clinical teaching of obstetrics must be improved Outpatient services are at present necessary, but as soon as beds are available, these women should all be brought to the hospital for delivery Students get a midwife idea of obstetrics from the so-called simplified technic used in many outpatient services and reflect these methods in the continued high maternal mortality Few interns have an obstetric training comparable with that received in medicine and surgery They go into general practice, and must meet the emergencies of obstetric practice with the inadequate training received as an undergraduate

6 Churches could aid greatly in making motherhood safer, if on Mother's Day special collections were taken for the obstetric services of our various hospitals In addition to the money raised, such a collection would have an educational value by calling the people's attention to the great obstetric needs

141 Wisconsin Street

Clinical Notes, Suggestions, and New Instruments

A SIMPLE TECHNIC FOR CONCENTRATING SPUTUM[*]

Stanley Woolley M D Loomis N Y

Greenfield and Anderson[1] have recently described a simple technic for the sedimentation of tubercle bacilli in the sputum In brief this method consists in placing a small amount (5 c c) of sputum in a centrifuge tube adding two volumes of 1 per cent sodium carbonate in 1 per cent phenol (carbolic acid), shaking well and placing in the incubator for from twelve to twenty-four hours The tubes are then centrifuged for about fifteen minutes and smears made from the sediment after pouring off the supernatant fluid

The advantages claimed by the author for this method are (1) rapidity (2) sterility of sputum when taken from the incubator, and (3) the resemblance of the films to direct smears They also made controls of their method using the full technic of Ellerman and Erlandsen for comparison and report a distinct advantage in the simplified method

This technic was recently tried out at the Loomis Sanatorium and with some slight modifications has been adopted in place of the more cumbersome Ellerman and Erlandsen technic

The sanatorium uses the standard 4 ounce blue glass pocket sputum flasks (Cleaneasy) for collecting sputum for concentration or sedimentation As these are graduated it is a simple matter to add the required amount of sodium carbonate solution directly to the sputum The cork is replaced and the contents are thoroughly mixed by shaking If the bottle is more than one-third full, which is usually not the case a portion of the contents can be discarded or treated in the same way in another bottle

Placing in the incubator (37 5 C) overnight has generally been found sufficient for digestion On removal the bottle is again shaken and the contents poured into a 50 c c plain lipped centrifuge tube In case there are more than 50 c c in the bottle a sufficient amount is discarded before shaking These tubes are centrifuged for fifteen minutes in an electric centrifuge the supernatant fluid is poured off and smears are made in the usual way

In comparing the two methods thirty-seven specimens were examined After thorough shaking of the sample of sputum the contents of each bottle were divided one part was used for the standard Ellerman and Erlandsen (E & E) method and the other for the simplified Greenfield and Anderson (G & A) technic The G & A method showed nine positives and twenty-eight negatives the E & E method eight positives and twenty-nine negatives The results were the same for each specimen by the two methods with the one exception in which the E & E method was negative Each slide was thoroughly examined by two examiners and separate records were kept and compared after all slides were scrutinized

The advantages of the G & A method besides its simplicity and cleanliness are that the sediment yields better smears and the stained bacilli are more distinct This is probably because digestion is not quite as complete as in the E & E method but our limited experience seems to show that it is sufficient for all purposes

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[*] From the Loomis Sanatorium Babbitt Memorial Laboratory

[1] Greenfield J G and Anderson I Lancet 2 423 (Sept 6) 1

Therapeutics

A Department Devoted to the Improvement of Therapy
A Forum for the Discussion of the Use of Drugs
and Other Remedies in the Treatment of Disease

USE AND ABUSE OF CATHARTICS *

(*Concluded from page 461*)

RHUBARB

Rhubarb [1] might be called the "constipating purge", it presents a remarkable combination of constipating and purgative action, since it contains tannic acid and a resinous body, which, on hydrolysis, yields various purgative anthraquinon derivatives (rhein, emodin, chrysophanic acid, etc) The latter may also exist partly free In addition, this drug contains a large amount of calcium oxalate, which accounts for its 'grittiness" when chewed

MODE OF ACTION AND INDICATIONS

With small doses (up to 0 3 gm , or 5 grains), the astringent action predominates, with gram doses (15 grains or more) the purgative action is brought out, a mushy evacuation resulting in from six to ten hours, followed by a greater tendency to constipation than is the case with most other purgatives When used in sufficiently large doses to be a reliable cathartic, rhubarb is a distinct irritant to the intestine hence it is contraindicated in such conditions as enteritis or mucous colitis

Authorities differ regarding the use of rhubarb in chronic constipation Some consider it especially indicated in this condition, because—as is the case with other anthraquinon cathartics (cascara sagrada, senna, aloes)—habituation does not readily occur Others, and with greater cogency of reason, condemn rhubarb as one of the worst of all cathartics in chronic constipation, because of its tendency to leave constipation as an after-effect We may safely conclude that chronic rhubarb purgation is a misuse of the drug It surely cannot cure chronic constipation, and it might make it worse

Rhubarb is claimed to be especially indicated in those cases of delicately poised enteric function, occasionally found in feeble women and children, characterized by a tendency to diarrhea following the use of any other purgative Rhubarb knows when to "stop" The introduction of such nonirritating physical laxatives as liquid petrolatum and agar which cannot cause excessive action, has rendered rhubarb much less important in such cases

The chief use of rhubarb is in the milder diarrheal disturbances, especially of infants and children On the other hand, in the severer diarrheal disorders, when there is actual inflammation of the intestine, rhubarb would be contraindicated because of the possibility of its acting as an irritant When the intestinal tract contains curds or other unsuitable or indigestible food which produces colic and diarrhea in the course of nature's" efforts at evacuation of the irritant, rhubarb is a remedy *par excellence* to reinforce the salutary tendency to evacuation, and to antagonize, by its astringent action, an excessive prolongation of the diarrheal discharges For this purpose the *aromatic syrup of rhubarb* is usually administered, and with good reason Here is a pharmaceutic masterpiece in efficiency of drug disguising Children delight in taking it It is so weak a preparation—representing only 3 per cent of the drug—that it can be given in teaspoonful doses even to infants For adults it is too feeble in action The following is Kerley's [2] schedule of dosage

DOSAGE OF AROMATIC SYRUP OF RHUBARB

6 months	4 c c (ʒ i)
18 months	8 c c (ʒ ii)
3 years	12 c c (ʒ iii)
5 years	16 c c (ʒ iv)

For children, this is the rhubarb preparation to be preferred to all others, unless the sugar contained in it should render it objectionable, as in excessive intestinal fermentation In such cases, an equivalent amount of the aromatic tincture of rhubarb, of which the syrup contains 15 per cent , might be substituted , and benzosulphinid (saccharin) used for sweetening, as in this prescription

		Gm or C c
℞ Benzosulphinid		0|03
Sodium carbonate		0|03
Aromatic tincture of rhubarb		4|50
Water	to make	30|00

Dosage same as that of the syrup

This drug has the reputation of being "good for the stomach " It would no doubt be as difficult to bring objective *proof for this action as it is for that of other* so-called stomachics Its not unpleasant bitter, aromatic taste and its astringent effect would entitle it to rank among the astringent bitters were it not for its purgative properties This combination of qualities possessed by it renders rhubarb superior to other astringent bitters in some cases of dyspepsia complicated with constipation For this purpose, owing to the stomachic qualities of the alcohol contained in them, one of the tinctures the tincture of rhubarb (20 per cent , spiced with cardamom) or the more pleasant aromatic tincture (also 20 per cent , flavored with cinnamon, clove and nutmeg) would be employed in teaspoonful doses—more or less, according to the effect on the bowels—taken in a little water half an hour before meals This treatment is, of course, suitable only in "atonic" conditions, and would be contraindicated by a state of excessive irritation or irritability

SIDE EFFECTS

As the rhubarb stools have a "bilious" appearance due to the presence of the coloring matters of rhubarb, it was formerly classified as a cholagogue, and special indications were constructed for it based on this supposed action on the liver We now know that *it is not* a real cholagogue, and that whatever benefits are obtained from its use in liver disturbances are due to its cathartic action It must be remembered that, owing to the chrysophanic acid it contains, rhubarb *imparts* to the urine a yellowish color, which may lead one to suspect the presence of icterus This urine may be distinguished from that of jaundice by the fact that it becomes purplish red on the addition of an alkali Rhubarb renders the milk of nursing women laxative to the child The drug has been known to cause macular, vesicular and even hemorrhagic eruptions, though such effects are rare

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* This article the nineteenth concludes the series on the Use and Abuse of Cathartics ' These articles with revision and additions will shortly be published in book form

[1] *Rhubarb* is the *rhizome* of an Asiatic plant related to but by no means identical with the rhubarb ' or pieplant the juicy stems of which we use in cookery Eating of these has therefore merely the laxative value of cellulose food and will of course not give one the purgative action of the official rhizome

[2] Kerley C G The Treatment of the Diseases of Children Philadelphia W B Saunders Company

METHOD OF ADMINISTRATION

For solid administration forms, powdered rhubarb is to be used The *extract of rhubarb* is undesirable, as it is unreliable in action The active principles are so easily injured by heat that the extract may even be less efficient than the powdered root[3] Soap forms a good excipient for rhubarb pills This prescription might serve as example

		Gm or C c	
℞	Rhubarb powdered	6|0	gr xc
	Soap powdered	2|0	gr xxx
	Water enough to make a mass	|	

Mix and divide into 30 pills
Label One or two after each meal

Each of these pills contains only 0 20 gm (3 grains) of rhubarb, and more than 0 30 (5 grains) could hardly be given in pill form, on account of the necessary limitation in the size of pills Hence, when larger doses are required, the powder form must be employed, though the powder might be disguised by enclosing it in cachets, each of which may be made to contain up to 0 60 gm (10 grains) of the powder Some persons actually enjoy chewing rhubarb, and little cubes of the rhizome are on the market, especially suitable for this purpose

RHUBARB AND ALKALI

The addition of alkali prevents precipitation when an alcoholic preparation of rhubarb is mixed with water This is the reason for the presence of a small amount of potassium carbonate in the syrup of rhubarb There are numerous other compound rhubarb preparations, however, in which alkali is used for synergistic or for cooperative action

Compound rhubarb powder, also known as Gregory's powder, is a mixture of

Powdered rhubarb	25 gm
Magnesium oxid	65 gm
Jamaica ginger	10 gm

We have here the evacuant action of the rhubarb, which acts chiefly as stimulant to peristalsis, reinforced by the laxative action of the magnesium ion, which acts by retaining fluid in the bowel In addition to this, the antacid action of the magnesium oxid is of value in excessive intestinal acidity, which is frequently present in the summer diarrheas of infants and children The dose of this powder for an adult would be from 2 to 4 gm (one-half to 1 dram), for a child 2 or 3 years old from 0 3 to 0 6 gm (5 to 10 grains) This powder is, however, far from being palatable Adults will take it, but children only with protest and often only after a struggle In this connection, two axioms on children s medication might be laid down

1 A struggle in administration sometimes does more harm than the medicine can do good
2 The more we know about medicines the less offensive is our medication

That it is not necessary to inflict Gregory s powder on the sensitive palate of a child is shown by a prescription that offers all the effects obtained from the powder in an actually delicious form

		Gm or C c
℞	Magnesia magma	30|
	Aromatic syrup of rhubarb	30|

M Label Teaspoonful every two hours

The proportion of the ingredients size of dose and frequency of repetition of dose may of course, be varied to suit the individual case The previously described saccharinated substitute might be used instead of the syrup in cases in which sugar would be contraindicated

"*Rhubarb and soda*" is quite a popular stomachic remedy, and deservedly so It is a veritable gastric polychrest, combining the previously detailed effects of rhubarb in dyspepsia with those of baking soda, which is probably the single most efficient temporary remedy against gastric distress Rhubarb and soda tablets are marketed by various manufacturers They are the most convenient form for administration of this remedy to the average dyspeptic This prescription might be useful

		Gm or C c	
℞	Powdered rhubarb	10|	ʒ iiss
	Sodium bicarbonate	30|	℥ i
	Oil sugar of peppermint (N F)	30|	℥ i

Mix and divide into 30 powders
Label One in hot water after meals as required

The oil sugar might be omitted for those who dislike sweet or for patients with whom sugar disagrees The 0 60 c c of oil of peppermint contained in the oil sugar (2 per cent according to a general formula in the National Formulary) might be incorporated with the other drugs For patients who dislike the flavor of peppermint—and there are such—oil of fennel oil of anise, or any other volatile oil desired might be substituted Instead of being divided into doses the powder might be dispensed in a box and the patient directed to take a level or a heaping teaspoonful as required This preparation is therapeutically as efficient as and pharmaceutically much superior to, the old and now no longer official *mixture of rhubarb and soda* at present embalmed in the National Formulary under the title of *Compound Rhubarb Mixture*" The manner in which the extemporaneous preparation may be modified, as indicated above to suit the needs and idiosyncrasies of the patient proves the undesirability so often noted in other instances of ordering a ready made "hand-me-down mixture

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TREATMENT OF LARVA MIGRANS OR CREEPING ERUPTION

Dr R R Kime Lakeland Fla writes In Queries and Minor Notes (The Journal March 8 1919 p 748) there was a short discussion on the treatment of larva migrans or creeping eruption Most of the methods of treatment presented are painful and uncertain in results I would suggest a simple efficient quick easily applied remedy consisting of salicylic acid 10 grains for young children or salicylic acid 20 grains to collodion 1 ounce for older children If this is painted well over the eruption especially at the points of migration twice daily the eruption will soon disappear The collodion obstructs migration and the salicylic acid destroys the larva

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Faræus' Sedimentation Test for Pregnancy —Faræus noticed that the blood of a pregnant woman allows more sedimentation of erythrocytes than the blood of the non pregnant He uses a tube 0 01 cm in diameter and mixes in it 8 c c of blood with 2 c c of a 2 per cent solution of sodium citrate and sets it aside for an hour If the sediment of the corpuscles then reaches only to a height of 1 cm or less the woman is not pregnant as with blood from a pregnant woman the sediment was always found extending above the 1 cm mark Hauch stated at the recent French Gynecologic Congress at Brussels that this test is being used considerably in the Scandinavian countries and that negative findings could be relied on but that positive [illegible] were noted sometimes in [illegible] the pregnant

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[3] For the same reason the use of the fluidextract of rhubarb is very limited

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SATURDAY, FEBRUARY 21, 1920

AMERICAN FOOD HABITS AND HEALTH

Changes in the food habits of large groups of persons may be brought about by necessity and likewise by altering customs and food preferences Conditions determined by the war and consequences arising from it have enforced pronounced changes in the dietaries of thousands What the outcome of this necessary response to the exigency of food situations may be is now being exemplified in the effect of the innovations on the health of the affected nations Scurvy, beriberi and war edema are conspicuous illustrations of the extreme effects brought about by necessity that is, by actual shortage of certain foods or by their high cost A few months of deprivation may suffice to send deficiency diseases broadcast among people previously living in good health and working efficiency

The other category of change in food habits by which new dietary customs come into vogue and older choices lose their popularity is slower in becoming manifested The more permanent revisions of food preferences are not ordinarily created by famine, war or pestilence They develop slowly like other changes in styles, nevertheless they do arise, despite the fact that many persons assume that our food practices are perennially the same Recently the Office of Home Economics in the United States Department of Agriculture[1] completed a comparison of the foodstuffs purchased by 500 families with the amounts of the same foods purchased by 400 families about twenty years ago The outcome shows that the amount of meat in the diet has decreased about 8 per cent, and grain products about 11 per cent while dairy products have increased about 6 per cent vegetables, 4 per cent and fruits, 8 per cent The average amount of meat and fish supplied in the diet in the 500 studies was about 6 ounces daily per man dairy products, 16 ounces, grain products, 13 ounces vegetables 16, fruits 9, sugar and syrups 3 and fats, 2 ounces

The statistics indicate, so far as such broad generalizations which deal with the quantity of nutrients rather than the special qualities of the foods can be depended on, that the "average" diet of such groups is adequate The use of milk increased up to 14 ounces a day in the period under consideration This is scarcely more than one-third quart a day, and since the amount of milk did not increase in accordance with the greater number of children in the families studied, the undervalued importance of milk in the dietary still deserves to be emphasized to the American public Few of the dietaries were seriously below the accepted standards for the more important mineral ingredients required, namely, iron, calcium and phosphorus The average dietary is more likely to be deficient in iron than in the other elements mentioned The data indicate that milk and other dairy products supply the greatest percentage of calcium, vegetables and grain products, the greatest percentage of iron, and dairy and grain products, the greatest amount of phosphorus, and in each case at the lowest cost

THE CONSEQUENCES OF BURNS

The pathogenesis of the severe symptoms, often ending in death, which may follow burns has long been a matter of speculation The widely unlike character of the phenomena involved makes it more than probable that differences in the degree of injury are attended by a variety of untoward consequences not necessarily dependent on a common cause Thus, in burns of the first and second degree there is little, if any, actual destruction or disintegration of the tissues, the reaction being more nearly of a severe inflammatory character On the other hand, in the severe damage of burns of the third degree, when subcutaneous cellular tissues are actually destroyed, unusual chemical products may be generated, and their possible deportment in the organism must be taken into account It is easy to understand how local symptoms arise in the case of burns, but the nature of the less frequent but more aggravated general phenomena, with their remote effects, has been more puzzling

An unusually large number of observations on a group of persons more or less severely burned in a munition factory near Frankfort[1] has afforded an opportunity to test, on a considerable scale, the validity of some of the theories that have been advanced to explain the consequences of burns The theory of Sonnenburg,[2] which attributed death to a reflex depression of the vasomotor tonus, failed to receive support from these clinical cases Vasomotor shock was not a common manifestation Marked changes in the blood, reported by a number of observers, have been emphasized as factors of primary significance Alterations in the form of the red corpuscles with hemoglobinuria,

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[1] Langworthy C F Office of Home Economics Some Result of the Work Carried on During the Fiscal Year 1918 1919 J Home Economics **11** 519 (Dec) 1919

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[1] Becky K and Schmitz E Klinische und chemische Beiträge zur Pathologie der Verbrennung Mitt a d Grenzgeb d Med u Chir **31** 416 1919

[2] Sonnenburg Die Ursachen des Todes nach ausgedehnten Verbrennungen Deutsch Ztschr f Chir **9** 138 1877 Virchows Arch f path Anat **80** 381 1881

and particularly a loss of water from the blood accompanied by an increase in the number of erythrocytes amounting sometimes to 4,000,000 per cubic millimeter, are on record In the Frankfort victims hemoglobinuria, which is often regarded as an almost specific symptom of severe superficial burns, was by no means always present The formed elements of the blood were considerably altered in several instances, but the most striking finding was the enormous increase in the number of leukocytes, which reached 50,000 per cubic millimeter in one case Whatever the significance of such changes in the blood picture may be, they cannot be regarded by themselves as of sufficient moment to account for the severity of the symptoms exhibited by badly burned patients In any event it is unlikely, to say the least, that the altered red corpuscles so often observed after burns could produce by thrombosis or embolism those lesions which have been observed at necropsy

The most probable hypothesis of the pathogenesis of burns still remains unchallenged It looks on the clinical manifestations, such as delirium, hemoglobinuria and albuminuria, as well as on the anatomic findings, as the outcome of a profound intoxication [3] However obscure the nature of the hypothetic poison still is, there are many hints that it may be allied to those products which are concerned in so-called anaphylactic shock One thinks, first of all, of protein derivatives that might arise through the destruction of the tissues at the site of injury It is no longer a new conception to assume that the organism may be sensitized by chemical compounds arising through abnormal reactions in its own tissues Vogt[3] has summarized this view in suggesting that death following immediately on a burn may be due to shock, while delayed death is the outcome of an intoxication The poison is generated in the area of tissue destruction, and by its continued absorption and distribution leads to a sensitization of the body which in turn permits subsequent death by anaphylaxis

Corresponding with the views just formulated, the detection of foreign toxic products in the urine has been reported after severe burns as well as following anaphylactic seizures Becky and Schmitz [1] assert the presence of a protein of unidentified character in the urine of the Frankfort patients, and they confirm the previous reports concerning the enhanced toxicity of the urine for mice Bearing in mind the fiasco of earlier studies on "urotoxic coefficients," and the unfortunate confusion which they caused in discussions on "autointoxication" we may well hesitate to embody such evidence in any theory of intoxication after burns The essential features of the possible production of poisons in burns are by no means invalidated, even if the current evidence is not yet conclusive From the standpoint of treatment it cannot be too strongly emphasized that something far more serious and threatening than the mere disintegration of localized areas of tissue must be taken into account A profound systemic intoxication may be involved

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"UP FROM INSANITY"

Newspaper medicine contributes much to the gaiety and insouciance of medical life as may be seen by the frequent quotations from the lay press in our Tonics and Sedatives There is some excuse for the ephemeral dailies whose reporters can hardly be expected to be familiar with the elaborate technical terms of medicine, it would be impossible to employ a medical censor to examine the hourly output of world news It amuses us if the reporter discusses the interstitial glands ascribes *Taenia solium* to its proper place in brain anatomy, credits some surgeon with the clever removal of the Ethiopian tubes, and eyes us as he writes with a scarcely perceptible movement of the alligator supercilii But it is a matter of concern when a dignified monthly periodical with weeks and often months for consideration of its manuscripts, gives publicity to medical material which is unproved misleading untrue or sensational It should not be difficult to have any medical essay scrutinized by expert physicians before publication

The November issue of the *Atlantic Monthly* contained an article entitled "Up from Insanity" by E J purporting to be the experiences of one who had been insane and had recovered The editor of the *Atlantic* is at pains to say of the author that "his life has been precisely as described in his revealing narrative He could not be so frank and sign his name, but that name is known to the editor The paper has been the subject of much correspondence, and with the author's consent pains has been taken to verify many of the facts The *Atlantic* has entire confidence that the story is genuine down to the smallest detail ' The editor thus claims to have taken pains to verify many of the facts, and says that the story is genuine down to the smallest detail But there is one fact, one small detail that the editor has not authenticated, that is, as to whether the writer of the article has ever suffered from insanity It is of course a small detail but it should not have been overlooked

There is no evidence in the article itself that 'E J ever did suffer from insanity, and since the editor offers us no proof of the fact it would seem that a very essential element in the story is lacking On the other hand there is in the article considerable evidence that the writer was not insane After a harrowing description of an episode intended to be the real thriller" of this sensational paper, the writer (on his way to hunt big game in Africa) consulted a "celebrated New York specialist" who told him he [illegible]

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3 Bardeen C W Johns Hopkins Hosp Rep 7 137 1898 Eyff Centralbl f d Grenzgeb d Med u Chir 4 428 1901 Pfeiffer Virchows Arch f path Anat 180 36 1905 And particularly Vogt Ztschr f exper Path u Pharmakol 11 191 1912

months to live, and his advice "was to go out and hunt and roam the world and make the best of the passing hours " As there is no curable form of insanity in which sudden taking off could be predicted, and as any celebrated specialist would have been a little more politic in his prognosis to an insane man, and under such circumstances would have advised a sanatorium for the remainder of his brief career, we are inclined to believe that the specialist did not discover insanity in the patient But he seems to have made a wrong prognosis, and Time took its revenge The writer went on the suggested hunting trip to Africa, and on his return he learned that just *six months* after he had left the United States "*that great physician had died—insane*"

We shall have to be brief with the "thriller' just alluded to One cold, raw March day, while traveling from village to village in a buggy, as a salesman, apparently, he entered a country store and found as he crossed the threshold that a great change had come over him He leaned against the counter to keep from falling was unable to speak, and "grinned diabolically" in attempting to talk to the merchant The merchant in a kindly and fatherly way helped him back into his buggy, and he drove seven miles in a torrential downpour to a village inn The host helped him out, and as he supported him into the house winked at his pals around the stove The patient grinned "like a Cheshire cat," had lost his power of locomotion, stared at the pals who burst out laughing in his face, finally got to his room, fell across the bed fully dressed and went to sleep, with a vicelike frontal headache Sometime in the night he awoke, lighted a lamp, looked at himself in the mirror (he describes the "horrible caricature" with reportorial frills) and then became intensely nauseated and violently ill! After closing this description he exclaims "That, my friends, is insanity, the ultimate curse of God " On the contrary, the description does not fit insanity at all, but is a clinical picture of a condition very familiar to physicians and to laymen in times past—before the days of prohibition The inn-keeper and his friends around the stove evidently—from the text—made a diagnosis at the time They laughed Their diagnosis may have been wrong It may be that it was a hysterical nervous condition from fatigue and exposure simulating closely intoxication, but the description does not fit insanity

The picture of himself as drawn by the writer in the article is that of a man now about 42 years of age, who had been at various times a salesman, a wanderer and a reporter He was a poor mixer odd, eccentric shy, morbidly self-conscious so that at one time he wore blue glasses because of this, and given to introspection In other words he describes the usual course of an ordinary case—a neurotic individual with a tendency to hypochondriacal self-analysis self-pity and gross exaggeration of his symptoms

There is plenty of really good literature written by the insane, either after recovery or during the progress of the disease, and some of it has been of distinct benefit to humanity, for instance, "The Mind that Found Itself," by Clifford Beers—a book that led to the foundation of useful societies of mental hygiene in this country and Canada, and has furthered the welfare of the insane everywhere Then there is the "Autobiography of a Paranoiac," extracts from which were published years ago in the *Journal of Psychology,* a truly extraordinary self-analysis, written in most excellent style, and a real contribution to psychology "Up from Insanity' is misleading and sensational, carries no conviction, does no good, and the *Atlantic Monthly* is the last periodical in which one would expect to see such an article

BOTULISM FROM RIPE OLIVES

For the fourth time within a few months a highly fatal outbreak of botulism due to ripe olives is recorded in our columns The article on an outbreak of botulism in New York in THE JOURNAL [1] this week follows close on the heels of the report of the Memphis outbreak in our "General News" of last week These added to the outbreaks at Canton, Ohio, and Detroit make a formidable showing

Three of the four outbreaks appear to have been traced to one brand of olives, packed in southern California, a fact that we believe should be given wide publicity at this time even if commercial interests suffer It seems at all events as if all local health authorities should make systematic attempts to find out whether this particular brand of olives is being distributed within their jurisdiction It is only the part of prudence and good common sense to make sure so far as possible that olives of this brand are not being 'salvaged" and perhaps distributed to scores of small groceries and delicatessen shops throughout the country

Two particularly disturbing features characterize these later outbreaks, one being that the olives apparently responsible for the New York outbreak were not of the same brand as those causing botulism in Canton, Detroit and Memphis If it is true that more than one brand of olives is involved in the causation of botulism, the difficulties that public health authorities will have in coping with this menace are measurably increased It is evident also that the whole ripe olive industry should be subjected to investigation and supervision Steps in this direction have already been taken, as is also noted in our news columns Thus far green olives do not seem to have been implicated in the causation of botulism

The second point about which concern may well be felt is the seeming willingness of unscrupulous dealers to sell olives and perhaps other foodstuffs that have been condemned We are informed that the olives causing death in Memphis were obtained from a store of which the principal business is buying and selling salvaged merchandise In this case, olives found in a dish on the table at the house where they were served had a very objectionable and pronounced foul odor In the New York outbreak, a distributing company in New York City refused to put the olives on the market under their label, but the jars were resold by the California olive company that packed them and were shifted about from place to place for some months, many being rejected during their circulation because they were obviously spoiled and unfit for sale From the information available it does not seem clear that the olives that were eaten in New York had a definitely spoiled odor The only evidence from those eating the olives came from one victim shortly before death, who stated that he noticed nothing wrong about the odor or taste, and from one 9 year old child, who also noticed nothing disagreeable in taste or odor Although a half bottle of ripe olives, probably the one that contained the toxin, was found in the home of the victims, no statement is made about the physical condition of these olives

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[1] Sisco D L An Outbreak of Botulism this issue, p 516

It seems clear that immediate and drastic warning should be given to dealers regarding the sale of ripe olives showing any signs of spoiling It is also true that at least until fuller information is available salvaged food, particularly olives, should be regarded with considerable suspicion by the general public

Current Comment

A PECULIAR SYNDROME ASSOCIATED WITH ADENOMA OF THE HYPOPHYSIS

Hitherto there have been two clear-cut clinical pictures associated with disease of the hypophysis acromegaly, first accurately described by the French clinician Pierre Marie, and the syndrome described many years later by Frohlich as dystrophia adiposogenitalis It has generally been assumed that acromegaly is an indication of hyperpituitarism, while Fröhlich's syndrome is a manifestation of hypopituitarism The work of American observers, and particularly of Harvey Cushing, has thrown a good deal of light on the subject of disorders of the hypophysis, and has indicated that in addition to these classical pictures certain atypical manifestations may at times be associated with disease of this gland Reichmann[1] has recently recorded two examples of a third fairly clear-cut syndrome associated with disease of the hypophysis and easily distinguishable from either acromegaly or Frohlich's syndrome The prominent clinical features presented by his patients were turgidity and cyanosis of the face, with exophthalmos and dilated pupils cardiac hypertrophy, with hypertension and bradycardia glycosuria, premature menopause, pronounced myasthenia, edema of the legs, and a blood picture showing a decrease in the lymphocytes In the patient who came to necropsy, the lesion was a chromaphil adenoma of the anterior part of the hypophysis, such as has been described by Benda as characteristic of acromegaly The necropsy disclosed in addition a small thyroid rich in colloid material, and a slight but definite hyperplasia of the suprarenals There was also osteoporosis in the bones of the vertebral column, and the patient had noted that her stature was gradually decreasing It is apparent from the pathologic findings in this case that, while the main lesion was in the hypophysis, there was evidence that other glands of internal secretion were involved The thyroid was smaller than normal, and the suprarenals were somewhat hyperplastic Indeed, Reichmann had concluded during the patient s life that the syndrome was probably a polyglandular one Reichmann is of the opinion that the clinical picture presented by these patients is not exceedingly uncommon It will, of course, require further reports to determine whether this is the case History has usually shown that the description of a new syndrome is followed by its recognition in various parts of the world, and there is little doubt that other reports on this peculiar condition will appear in the literature if Reichmann's assumption is correct Since our knowledge of the glands of internal secretion is still very fragmentary, observations of this sort are stimulating both to the clinician and to the laboratory worker

THE PIGMENTS FOUND IN NERVE TISSUES

The existence of lipochromes—fat-holding or fat-combining pigments—in various parts of the body has long been recognized The yellow color characteristic of the corpora lutea belongs to the group here referred to Only in recent years has the chemical nature of some of the lipochromes been more clearly understood The pigments of milk fats and body fats, of egg-yolk of blood serum, of the corpus luteum and of other tissues have been identified as belonging to two classes of coloring matter, the carotin and xanthophyll pigments, respectively We are indebted especially to the work of Palmer and his associates[1] in this country that these carotinoid pigments are now known to represent in many, if not in all cases, merely the lipochromes of plants transferred in the form of animal or human food and incorporated into the animal tissues Histologists are familiar with a pigment that accumulates in the nerve cells in advancing life and sometimes under pathologic conditions Of its origin and nature little has been known definitely Because the pigment has been observed in certain wasting processes, some pathologists have looked on it as originating in the cells through their "wear and tear" As nothing more specific than staining methods has been depended on to determine the identity of the so called cell lipochromes in most cases, it is by no means certain that the same products have been encountered in every instance

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[1] Reichmann Deutsch Arch f klin Med **130** 133 1919

[1] Palmer L S and Eckles C H J Biol [illegible] 1914 2[illegible] [illegible]61 (Nov) 1915 2[illegible] 2 (Oct)

For one case, that of the lipochrome pigment of the nerve cell, however, the researches of Dolley and Guthrie[2] at the University of Missouri appear to have given a satisfactory answer They demonstrate that it is a plant carotinoid pigment, derived from the food and incorporated in the cell, but limited to such species as carry carotinoids in the blood serum Thus, in bovines, the occurrence of lipochrome in nerve cells appears to be customary, in swine, it is absent Man, who is best known to exhibit lipochrome, is also known to carry carotinoids in his blood serum and to have colored fat Some investigators have attempted to distinguish a group of pathologic pigments from the true lipochromes by calling them "lipofuscins"[3] Dolley and Guthrie[2] have been able to make pigment appear in or be absent from the nerve cells, according to the method of feeding they employed When carotinoid-free diets were given, the lipochrome was missed from the nerve cells They demonstrated that the reactions of the pigment that they could induce experimentally to deposit in the nerve cells was identical in its microchemical tests with the so-called "lipofuscin" The quite different melanin pigment that has been noted in nerve cells is, according to Dolley,[4] likewise not a natural constituent of any region of the nervous system, nor is it a product of normal or hypernormal functional activity The genesis of the melanin pigment under all conditions, physiologic, morbid or senile, the Missouri investigators assert, is referable solely to depression According to them, the histogenesis of the melanin pigment found in nerve cells is from nuclear material

BRONCHIAL SPIROCHETOSIS

As long ago as 1905, Castellani, the student of tropical diseases, described the occurrence in the island of Ceylon of a form of bronchial infection caused by spirochetes Since that time other observers have seen cases of bronchial spirochetosis in various parts of the world but chiefly in the tropics The American observers Jackson and Waters recognized the disease in the Philippines in 1908 The experiences of the recent war led to the observation that the disease was not confined to tropical countries During the war cases were observed in considerable number along the Adriatic coast, in Serbia, in Switzerland and in France Recently Farah described a number of cases of the disease in Egypt The condition is one that is usually confused with tuberculosis It generally runs a chronic course, although it may occur in the acute form Patients usually complain of a chronic cough which is worst on arising and toward night and is accompanied by an expectoration that is frequently bloody In the common form of the disease, the chronic type, the patient is usually afebrile, and no pronounced effect on the general health results The recognition of the disease depends on the finding in the sputum of the characteristic spirochete, which was named by Castellani *Spirochaeta bronchialis* The organism stains readily with the ordinary basic anilin dyes, but does not take Gram's stain It generally occurs in the sputum in large numbers Attention is called to the subject at the present time because of the return of large numbers of our citizens from service in France and other European seats of war where the disease might possibly have been contracted

THE ATTEMPTS TO TRANSPLANT TUMORS

It has been remarked that the cancer problem, like the kingdom of heaven, is within us An ordinary infection can be transferred from one individual to another, and the disease may often even be conveyed between individuals of different species This is in striking contrast to what is true of most neoplasms They do not continue to develop when introduced into another than the original host Hence, when it was found that one or more varieties of tumors having something in common morphologically with the malignant growths of man could be transferred from animal to animal, particularly in the case of mice, the hope of finding important facts in relation to the spread of such tumors was greatly encouraged The story of transplantation experiments in cancer research is a history of many chapters Spurred on by the striking analogies with human experience obtained in the investigation of tumor grafts in mice, as well as by the tremendous human importance of the questions at issue, numerous investigators have turned their best energies toward transplantation studies Despite the oft repeated experience of "negative results," the workers have persisted in what has often seemed to be a hopeless undertaking Nothing short of the courage of mind which is a characteristic of the true man of science could have kept cancer research alive to the degree that is represented by its place in present day medical inquiry Yet in the midst of many disappointments and of the protracted uncertainties, some positive findings and helpful information have almost always been forthcoming Each year has witnessed the patient unearthing of some new fact that has proved to be a spur to further initiative As an illustration of this we may cite the recent attempts of Mann[1] in the Department of Experimental Surgery at the Mayo Clinic to obtain a *transplantable* tumor in the higher species of animals Heretofore all such experiments, with the exception of those dealing with the infectious sarcoma of the dog, have been failures Mann has made a new effort to transplant tumors of the dog and cat, for the advantage of obtaining a transplantable growth in a larger species is obvious The results obtained in the Rochester experiments were strikingly similar to those hitherto observed in autotransplantation and homotransplantation of normal tissues The transplants of a mammary carcinoma of a dog and of a fibroma of a cat failed to develop to any noteworthy extent on other individuals of the same species The transplants of the fibroma which were made in the donor grew, however, and were exactly similar to the mother tumor in the cat Mann has discovered the lesson in such experiences The problem, he says, of developing a transplantable tumor in the higher species of animals is, it would seem, closely allied to the problem of making homotransplants of normal tissues grow Here, again, is a fruitful field for renewed research

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[2] Dolley D H and Guthrie Frances V The Pigmentation of Nerve Cells II The Lipochrome a Plant Carotinoid Pigment J M Research **40** 295 (Sept) 1919

[3] Wells H G Chemical Pathology 1918 p 475

[4] Dolley D H The Recovery from Depression in the Purkinje Cell and the Decline to Senility of Depression With the Incidental Histogenesis of Abnormal Pigmentation J Comp Neurol **28** 465 1917 Dolley D H and Guthrie F V The Pigmentation of Nerve Cells I The Non Fatty, Melanotic Pigment in the Dog and Rabbit Produced by Chronic Depression J M Research **39** 123 (Sept) 1918

[5] Farah Najib Presse med **27** 774 (Dec 17) 1919 abstr J A M A **74** 360 (Jan 31) 1920

[1] Mann F C Attempts to Obtain a Transplantable Tumor in the Higher Species of Animal J Cancer Res **4** 351 (Oct) 1919

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION PUBLIC HEALTH ETC)

CALIFORNIA

Reciprocal Relations Established—Reciprocal relations have been established between the state medical licensing boards of California and Iowa which became effective Jan 22 1920

New Officers—At the meeting of the West Side Medical Association of Kern County, held in Taft during the week of January 17, Dr Harry N Taylor Maricopa, was elected president, and Dr Allen, Taft, secretary

Botulism Study—A fund has been raised by the olive growers and the canning industry for an intensive study of botulism in California The investigation will be conducted in the laboratories of the Stanford University Medical School and the George William Hooper Foundation for Medical Research of the University of California and has the cooperation of the U S Public Health Service and the California state board of health A careful study will be made of the distribution of *Bacillus botulinus* in nature of the ways in which food materials may become infected and of the steps necessary to destroy the organism when it has infected raw food materials It is expected that the work will require at least two years

FLORIDA

Personal—Dr Clarence M Slack has been elected mayor of St Petersburg——Dr John T Bowen, Clearwater, who has been on duty with hospitals in Serbia during the world war, has received a decoration from the Serbian government

Bequest to Health Bureau—A citizen of Florida who wishes to remain anonymous has deposited with the state officer a will in which he leaves $75 000 to carry on the fight against venereal disease The will provides that a corporation must be formed to administer the bequest which constitutes the major portion of the testator s fortune

County Society Program.—The committee on scientific work of the Hillsboro County Medical Society has issued the society's program for 1920 in the form of a calendar The meeting days of the society are red letter days to the physicians of the county At the bottom of the page for each month appears the scientific program for the society's bimonthly meetings

ILLINOIS

Chicago

Grant by the Fenger Memorial Association—The Fenger Memorial Association at the suggestion of Dr Ludvig Hektoen, has awarded Dr Harry B Culver a grant to aid in the study of certain urinary infections

Dinner to Philadelphia Neurologist—Dr Charles H Frazier Philadelphia was given a complimentary dinner at the University Club February 18 at which he met former service men who had been members of his classes, and afterward read a paper before the Chicago Medical Society on major trigeminal neuralgias and their treatment

Decrease in Influenza and Pneumonia—From more than 2 000 there was a drop to 136 cases of influenza February 14 and pneumonia cases dropped from a maximum of 300 to 56 Eighteen deaths were reported from influenza and twenty-three from pneumonia On account of the improvement in the influenza situation the ban on visiting in hospitals has been removed, and public funerals are again permitted

Augustana Hospital Drive—A drive of the Augustana Hospital for $700 000 for the erection of a new building was opened, February 16 by the first of a series of ten dinners Addresses were made by Chief Justice Harry Olson chairman of the executive committee Dr William A Evans Mrs C A Evald and Mrs Albert J Ochsner A budget was approved to apportion to the various divisions the following amounts executive committee $18.245 men's division $22 911, women s division $5 454, miscellaneous $2 300

Joint Meetings—A joint meeting of the Chicago Pediatric Society and Clinic Society of the Children s Memorial Hospital was held at the hospital February 20 Dr John A E Eyster of Madison, Wis delivered the address of the evening——A joint meeting of the Chicago Medical Society and American Congress on Internal Medicine will be held February 25, at 8 40 p m Dr A Scott Warthin chief of the department of pathology of the University of Michigan Ann Arbor will deliver an address on The Medical Aspects of Gassing and Warfare with Particular Reference to Mustard Gas illustrated by lantern slides

INDIANA

Conference on Mental Hygiene—At the Indiana Conference on Mental Hygiene held in Indianapolis, December 15 under the auspices of the Indiana Society for Mental Hygiene President William Lowe Bryan of Indiana University Bloomington, was elected president, Mr Z T Fitzgibbon Muncie, vice president Mr Paul Kirby Indianapolis secretary, and Mr Edward Woollen Indianapolis treasurer Medical members of the executive committee are Drs S E Smith Richmond George S Bliss Fort Wayne, and Charles P Emerson Indianapolis

Personal—Dr Columbus B Goodwin, Kendallville, is reported to be seriously ill with pneumonia in Lakeside Hospital——Dr George S Bliss superintendent of the Indiana Home for Feeble-Minded Youth Fort Wayne, has been appointed executive head of a similar institution operated by the United States government in Honolulu Hawaii——Henry C Gemmill director of the Fort Wayne municipal venereal clinic, has resigned to accept a position as executive officer of the seventh district of the U S Public Health Service with offices in Cincinnati

LOUISIANA

Full-Time Health Work—The Rapides Parish Police Jury has appropriated $15 000 to be supplemented by appropriations made by Alexandria for carrying out full time health work

No Bubonic Plague in New Orleans—The U S Public Health Service announces there have been no new cases of human plague in New Orleans since December 29 During the two months preceding there were in all twelve cases of human plague, all of them among those employed in the large food warehouses located near the water front The situation was promptly and effectively met by the authorities and New Orleans is declared to be just as safe today as any other city in the country It is just as safe to visit New Orleans as it is to visit Rome Paris or any other large city

MASSACHUSETTS

Tuberculosis Association Established—The representatives of organizations in northern Massachusetts which are interested in the control of tuberculosis met February 4 in Salem and organized the Northeastern District Tuberculosis Association electing Israel C Clark Haverhill president Mrs Sturges Salem vice president Mrs George G Winchester Gloucester secretary and Josiah Gifford Salem treasurer

Universal Military Training Bill—Acting on the unanimous request of the council of the Massachusetts Medical Society the joint committee on legislation of that society and of the Massachusetts Homeopathic Medical Society February 10 considered and unanimously endorsed the medical aspects of the bill now before Congress providing for universal military training It was the opinion of the committee which represents over 4 000 physicians of Massachusetts that the detection of diseases [illegible] physical examination their relief ' and the betterment of health and physique through out of door life and exercise must inevitably improve greatly the physical condition of the young men throughout the country

MICHIGAN

Society Reorganized—Physicians of Barry County met at Hastings, December 31, and reorganized the Barry County Medical Society, electing the following officers president Dr Clarence H Barber, Hastings, vice president, Dr Edgar T Morris, Nashville, secretary, Dr Arthur W Woodburne, Hastings

State Officers Reelected—At the meeting of the trustees of the Michigan State Medical Society in Detroit December 13, Dr Frederick C Warnshuis Grand Rapids was elected secretary and editor of the official organ Dr David Emmett Welsh, Grand Rapids, was reelected treasurer It was decided that the annual meeting of the society be held in Kalamazoo, from May 25 to 27

Personal—Dr Garfield Smalley Charlotte who has been in Central America for a number of years, is ill with tropical fever in the Charlotte Sanatorium——Dr Vern N Richeson has succeeded Dr Jeannette Brigham resigned as city health officer of Howell——Dr George K Pratt, Flint, has been made assistant superintendent of the Oak Grove Hospital——Dr Lloyd C Harvie Saginaw has been appointed city physician of Saginaw to succeed Dr Leon B Harris deceased——Dr Lucius G Fitzgerald Port Huron, was acquitted by a jury, January 19, of the charge of performing an illegal operation

MINNESOTA

Upper Mississippi Physicians Elect Officers—At the annual meeting of the Upper Mississippi Medical Society held in Brainerd January 8, the following officers were elected president Dr J A Evert Brainerd vice president Dr F L Wilcox Walker, secretary treasurer Dr Irving Badeaux Brainerd

Overseas Medical Officers Club—Minneapolis physicians surgeons and dentists who served in the U S Army Navy Marine Corps or Public Health Service during the world war met January 15, and organized a club of which Dr Frederick E Haynes was elected president and Dr Clifford E Henry, secretary

Deaths—Elmer Ray Hoskins Minneapolis, Ph D University of Minnesota 1916 aged 30 Instructor in Anatomy University and Bellevue Hospital Medical College, 1917-1918, Lieut U S Sanitary Corps 1918-1919 Associate Professor of Anatomy University of Pittsburgh, and Assistant Professor of Anatomy University of Minnesota 1919 extensive contributor to the literature on the endocrine organs died January 30 from influenza-pneumonia——Walter W Denny a senior student of the University of Minnesota and an intern in St Paul City Hospital died January 26 from influenza

MISSISSIPPI

Physician Sentenced—Dr Fletcher E Lee Aberdeen is said to have been found guilty of manslaughter and sentenced to imprisonment for twenty years Dr Lee was charged with performing a criminal operation as a result of which Miss Mary Miller of Aberdeen died

Infirmary Purchased—The locating commission of the Mississippi conference of the Methodist church has purchased the South Mississippi Infirmary Hattiesburg from Dr Walter W Crawford for $30 000 The present building will be moved and the infirmary will continue work until new buildings to cost $500 000 are ready for use

NEW JERSEY

New Officers—At the reorganization meeting of the Greenville Medical Society held in Jersey City January 14 Dr Samuel A Cosgrove and Dr Leonard B Fauquier both of Jersey City were elected president and secretary-treasurer respectively——At the annual meeting of the Atlantic County Medical Society held in Atlantic City January 9 Dr Henry T Harvey was reelected president Dr Walt P Conaway vice president, and Dr Edward Z Holt secretary-treasurer, all are residents of Atlantic City

Personal—Dr Marcus A Curry Greystone Park has been appointed physician in chief and medical superintendent of the Morris Plains State Hospital pending the election of a permanent superintendent to succeed Dr Britton D Evans deceased——Dr Philip Embury, Basking Ridge, recently sustained severe cuts and bruises when his automobile was struck and demolished by a train at a grade crossing on the Lackawanna Railroad——Dr Matthew K Elmer, Bridgeton has been elected a director of Cumberland National Bank——Drs David H Oliver and Stacy M Wilson, Bridgeton have been elected directors of the Cumberland Trust Company——Dr William G Schauffler, Lakewood, recently discharged as Colonel Medical Corps U S Army, resumed practice at Princeton, February 1——Dr Blase Cole Newton has been elected a director of the Merchants National Bank Newton——Dr John R C Thompson, Bridgeton, has been reelected physician of Cumberland County——Dr Morris R Faulkner Vineland sailed from New York for South America January 15

NEW YORK

New Officers—At the annual meeting of the Medical Association of Oneida County held in Utica, January 13, the following officers were elected president, Dr Wood Clark vice president Dr John D Jones, secretary, Dr Daniel E Pugh and treasurer Dr Robert Sloan all of Utica

Welfare Legislative Program—Social welfare and labor legislative programs were discussed at a hearing before the senate labor committee February 12 These measures include the Knight bill extending the workmen s compensation law to cover occupational diseases a health insurance measure and a bill regulating the working hours of women and children

Board of Inebriety Quits—Assemblyman Martin McCue reported to the Assembly at Albany that the New York City board of inebriety organized in 1910 to care for persons addicted to overindulgence in intoxicants, has found no one in need of its aid and has asked to be disbanded A bill was introduced to delegate its powers to the board of correction

Personal—Count Pierre de Nouy, who was here during the war working for the French Mission arrived on the *Rochambeau* February 11 to take charge of the new laboratories of the Rockefeller Institute in connection with Dr Alexis Carrel s research work——Dr St Clair Darden Poughkeepsie has been appointed superintendent of the Healthwin Hospital and has assumed the duties of his position

New York City

Personal—Dr Seymour Oppenheimer has been appointed a trustee of the state institute for the study of malignant disease——Dr Philip F Bernstein Brooklyn has been appointed diagnostician to the Brooklyn section by the New York department of health

Sanitary Code Affecting Milk—At a recent meeting of the board of health section 155 of the sanitary code of the department of health was amended and the term modified milk was defined Under the terms of the amendment modified milk" means any subdivision of the classification known as Grade A for infants and children which has been changed by the addition of water sugar of milk or other substance intended to render the milk suitable for infant feeding Such milk cannot be sold without a permit from the department of health

NORTH CAROLINA

School Clinic—Buncombe County Medical Society has established a permanent clinic at Asheville for the treatment of schoolchildren suffering from adenoids and diseased tonsils Arrangements have been made for operations at the Mission Meriwether and Biltmore hospitals, the physicians donating their services but the hospitals making graduated charges not exceeding $12 50 The clinic will not be limited to Buncombe County but will be open to those in western North Carolina

Personal—Dr Andrew J Warren, Raleigh assistant state health officer has been appointed health officer of Charlotte succeeding Dr C Curtis Hudson Charlotte, who resigned to accept a similar position in Richmond Va——Dr James C Braswell Whitakers was elected grand master of North Carolina masons at the meeting of the grand lodge at Raleigh——Dr Walter A Newman Wilmington physician of New Hanover County has been appointed field health director for Halifax County Va

Sanatorium Burns—The Royal League Sanatorium, Black Mountain with all its cottages was destroyed by a fire originating in the power house on the night of February 15 Dr

Isaac J Archer, the superintendent, and the nurses and staff removed the patients without casualty to Cragmont Sanatorium nearby The loss is estimated at $30,000, partially covered by insurance This sanatorium was the first to be established by a life insurance or fraternal insurance organization for the care of its members suffering from tuberculosis

OHIO

Starts for Prison—Dr William A Charter, Marion, sentenced several weeks ago to imprisonment in the penitentiary for from one to seven years for performing an illegal operation, was taken to the penitentiary, January 21

Peak of Influenza Epidemic—The larger cities of the state have passed the peak of the influenza epidemic, and the mortality is presumably at its height, but it is likely that the incidence of the disease will yet be greater in smaller towns and rural districts

Hamilton S Biggar Prizes—The Cleveland Medical Library Association announces a prize essay competition for two prizes, one of $200 and one of $100 to be designated the Hamilton S Biggar Prizes of the Cleveland Medical Library Association Competition is open to members of the medical profession of Cuyahoga County, senior students in Western Reserve University and interns in hospitals in Cuyahoga County The prizes will be awarded for the best essays on some clinical or theoretical subjects of immediate clinical interest Manuscripts must be submitted to the secretary of the association, Dr George Edward Follansbee on or before Oct 1, 1920 the identity of the author being safeguarded in the usual way The announcement of the winners of the prizes will be made at the annual meeting of the association in December

Personal—Dr James W Young, Bellefontaine has been appointed coroner of Logan County succeeding Dr Horace A Skidmore, resigned——Dr David E Stephen Lorain, was seriously injured in a collision between his automobile and an interurban car January 14——Dr LeRoy Pence was elected president of the Mechanics Building and Loan Association, Lima, at its annual meeting January 20——Dr Jonas E King Girard has been appointed health commissioner of Trumbull County——Dr James J Martin Bucyrus has been elected city health commissioner——Dr James P Wortman, Crooksville suffered a fracture of the leg in an automobile accident, January 20——Dr Robert C Rind has been elected president of the Springfield City Hospital staff Dr Clarence S Ramsey has been reelected vice president and Dr William B Quinn has been elected secretary

PENNSYLVANIA

Academy Offers Use of Library—The Pittsburgh Academy of Medicine announces that the use of its library is open to all members of the Allegheny Medical Society and that a resident librarian is on duty at the Academy building 322 North Craig Street, from 10 30 a m to 2 30 p m, daily

New Officers—Mercer County Medical Society held its meeting January 4 at Buhl Hospital Sharon, preceded by a clinic and luncheon The following officers were elected president, Dr Frank Bleakney, Grove City, vice presidents, Drs Augustus M O Brien, Sharon and David Ferringer Stoneboro secretary, Dr Martha Edith MacBride Sharon, and treasurer Dr Carl J Mehler, Sharon

Licenses Revoked—Federal attorney E Lowry Humes was notified February 8 by Dr John M Baldy Philadelphia president of the Bureau of Medical Education and Licensure that the bureau has revoked the license of Dr Ellsworth I Trader of Pittsburgh now serving a sentence in the federal prison in Atlanta Ga for illegal writing of prescriptions for narcotics——Six Pittsburgh physicians have been arrested by federal agents in the last few weeks

Philadelphia

Campaign Against Quacks—A city-wide campaign against quack doctors was announced February 10 by assistant district attorney Charles Edwin Fox after William J Locker a practitioner of drugless therapy pleaded guilty before Judge Rogers of practicing without a license

Provost of University Resigns—After forty-four years of service in college work Provost Edgar Fahs Smith of the University of Pennsylvania has tendered his resignation to the board of trustees He announced his complete retirement from all university activities and connections giving up not only his office as provost which he has held since January, 1911, but also the Blanchard professorship of chemistry

Personal—Dr Joseph C Beck, Chicago professor of rhinology otology and laryngology of the College of Physicians and Surgeons of Illinois read a paper on the use of radium and other nonsurgical measures in malignant disease of the head and neck before the section on otology and laryngology of the College of Physicians February 18——Dr Alonzo E Taylor of the University of Pennsylvania sailed for Europe, February 14 to make a close study of food conditions in the hungry sections' of the continent——Dr C Lincoln Furbush director of public health and charities has been confined to his home with a mild attack of influenza

VIRGINIA

Improvement of Health Administration—The United States Public Health Service is conducting a campaign throughout the state to improve health administration in the rural districts The work is being financed jointly by federal state and local authorities

Damages Against Sanatorium—Henry Cohen, Jr is said to have been awarded $2 000 damages in his suit for $10 000 which he brought against the Tucker Sanatorium Richmond claiming that he sustained injuries as a result of the application of hot water bags while he was a patient in the institution in December 1918 The attorneys for the sanatorium made a motion to set aside the verdict on the ground that the amount awarded was excessive

WASHINGTON

Physicians Meet—At the recent meeting of the Washington Medical Library Association held in Seattle Dr Samuel J Holmes was reelected president for the fourteenth term Dr J A Smith was elected vice president and Dr Charles A Warharnik secretary treasurer The number of active members of the association has increased to 177——At the meeting of the Pierce County Medical Society held in Tacoma February 10 the topic of the evening was an open discussion of influenza inaugurated by Dr Charles S Wilson of the city health office

Laboratory Activities—The work of the laboratory of the Washington state board of health for January shows a large increase over previous records The number of examinations totaled 1 318 representing an increase of 67 per cent over the December total and of 220 per cent over the monthly average for 1918 There has been an epidemic of diphtheria in the state and the laboratory has been able to render efficient service in the distribution of large amounts of mediums as well as in the prompt diagnosis of cultures The increase in the diphtheria diagnostic work is shown by the January total of 728 in contrast to the total of 915 for the entire year 1919 Virulence tests on the carrier cases have been made where requested at the expiration of the quarantine period The Wassermann work also shows a steady increase since its introduction in 1918 The Wassermann specimens for 1918 totaled 435 for 1919 the total was 1 827 and for January, 1920 it was 278

WISCONSIN

Hospital Items—The new Milwaukee Maternity and General Hospital formerly the Columbia Hospital has been completely remodeled at a cost of more than $10 000 and was opened for inspection Dec 21 1919——The Methodist conference is reported to be planning to buy St Joseph's Hospital Racine and will erect an $80 000 hospital building

CANADA

Hospital News—The old Toronto General Hospital is to be purchased by the city of Toronto and will be converted into an isolation hospital

Medical Clinic for Kingston—Incorporation has been granted to the Kingston Clinical Association Limited with a capital of $100 000 The purpose of the association is to conduct a medical clinic which will standardize the systematic examinations Specialists in each branch of medicine will be in charge and all modern science equipment will be used This will make Kingston a more important medical center as it is the first clinic of the kind to be established in Canada Dr Walter T Connell will be the director

Public Health Notes—Representatives of the Academy of Medicine Toronto and of the headed by Dr Edmund E King recently waited on the Ontario Government in support of the vaccination act The physicians desire that the act be left unamended, or else strengthened by giving more power to the Ontario board of health and the medical officers of health Every child should be vaccinated before going to school at least and there should be subsequent vaccination if necessary The deputation thought it would be in the interests of the community if vaccination was made compulsory——Dr Arthur A Simard, Quebec, president of the provincial board of health of Quebec, reports the general health of the province as good Close touch with the origin and spread of smallpox in Ontario has been maintained, and it has been decided not to lift the boundary quarantine against Ontario Every precaution is also being taken against the admission of influenza into that province This disease has been present in many points in Ontario, and although not so bad as the epidemic of 1918 a large number of deaths from influenzal pneumonia have been reported——Toronto has had as many as thirty deaths a day from influenza, and the height of the epidemic has evidently *not* been reached——The Winnipeg epidemic of encephalitis lethargica has reached sixty cases with twenty-three deaths, an unduly high mortality rate of 38 per cent In eighteen cases the brain was examined and showed marked congestion perivascular infiltration with lymphocytes and plasma cells, and occasionally hemorrhage Degeneration of the nerve cells was variable the changes being most marked in the midbrain Marked lesions were also found in the kidneys A remarkable epidemic of hiccup occurred in Winnipeg at the same time

FOREIGN

Fuchs in Spain—On the invitation of the Junta de Ampliacion de Estudios (Postgraduate Studies Board), Dr E Fuchs professor of ophthalmology at the University of Vienna, will deliver a course of lectures at Madrid on the pathology of eye diseases In addition his lectures will be supplemented by explanations by Dr Cajal

Deaths in the Profession Abroad—Dr **H Muller,** professor of internal medicine at the University of Zurich until 1918 aged 71 Percussion and auscultation were his hobbies he used to say and he used them in perfecting the diagnosis of heart disease so that under his teachings congenital heart disease is detected earlier and in larger proportions in Switzerland it is said than elsewhere——Dr **Julio Robert,** physician to the French embassy at Madrid and to the French hospital director of the first infant consultation station at Madrid

Prize for Research on Nerves—The *Nederlandsch Tijdschrift* publishes a notice from the University of Leyden to the effect that the Bachiene prize of at least 500 florins with a parchment certificate, will be awarded for the best work on the recording of the electric phenomena in the living body of certain nerves that have not already been thus studied The nerves that have been already investigated are the phrenic the vagus of the lung and the depressor nerves It is stated that competition is open to all and the competing articles describing the research can be in Dutch French English or German They must be in the hands of the secretary H Krabbe Witte Singel 28, Leyden Netherlands before March 1 1921

LATIN AMERICA

Influenza in Havana—On account of the prevalence of influenza the health officer of Havana Dr Lopez del Valle has put in force several measures to combat the spread of the disease Among the measures adopted are the forbidding of all mask balls and childrens dances the placarding of houses where cases occur and the restricting of public funerals

Tribute to Dr Vieira de Carvalho—The *Annaes Paulistas de Medicina e Cirurgia* of São Paulo Brazil, describes the ceremonies which have been organized by the Santa Casa in honor of the completion of thirty years as director of that public hospital by Dr Arnaldo Vieira de Carvalho, professor of forensic medicine in the law school there and one of the founders and organizers of the Faculdade de Medicina e Cirurgia The faculty will present him with a bronze bust at the public meeting planned at the Theatro Municipal, where a gold medal and a parchment describing his record as physician administrator and citizen will also be presented Representatives from scientific institutions in other states have announced their intention to attend as well as numbers outside of scientific circles

GENERAL

Personal—Drs William J Mayo Rochester, Minn and Franklin H Martin Chicago who have been touring South America in the interests of a possible Pan-American College of Surgeons, started for home from Santiago Chile, February 14 In the course of their tour they have visited Buenos Aires Montevideo and Valparaiso, Chile

Delegates to World Red Cross Meeting—The American Red Cross has announced the appointment of the following delegates to the first meeting of the general council of the League of Red Cross Societies at Geneva Switzerland Willoughby G Walling Chicago, Otis H Cutler, New York, Mrs William K Draper New York, Samuel Mather Cleveland and Eliot Wadsworth Boston Mr Henry P Davidson chairman of the board of governors of the league will accompany the delegation The council will open in Geneva March 2 and will continue in session one week Twenty-four powers have been invited to send delegates from their national Red Cross societies

Bill to Suppress Bubonic Plague—To continue the work for suppression and control of bubonic plague in New Orleans Senator Ransdell of Louisiana has presented to the Senate an amendment to the deficiency bill, appropriating $250 000 for the immediate use of the Public Health Service This is in accordance with the recent request of the Public Health Service which has no available funds at the present time to suppress the bubonic plague and similar epidemic diseases The Clearing House Association of New Orleans is cooperating with the Public Health Service and has agreed to lend the New Orleans Dock Board $500 000 to finance the operations of local authorities in rat-proofing operations on the docks

Air Service Medical Association—Medical officers formerly or at present connected with the air service of the Army have organized the Air Service Medical Association of the United States and have elected the following officers president Dr John A McReynolds Dallas Texas vice presidents Col Theodore C Lyster New York City Col Eugene R Lewis Dubuque Iowa, Col Isaac H Jones Philadelphia Col William H Wilmer Washington D C and Col Albert E Truby, Washington D C secretary, Major Vernon K Earthman Dallas Texas and treasurer, Major Robert S McCombs Philadelphia The next annual meeting of the association will be held in the St Charles Hotel New Orleans April 26

Resolution Regarding Dr Osler—At the meeting of the executive committee of the Federation of American Societies for Experimental Biology in Cincinnati Dec 30, 1919 a minute was drafted stating

> In the death of Dr Osler the medical profession has suffered an immeasurable loss Belonging to no cult or age or clime he was master of the art of medicine in its purest form As a teacher he was again master painting with broad strokes pictures of disease never to be forgotten by the student An investigator and an inspirer of investigation a worthy counsellor of brother physicians a delver in the history of medicine and an ornament to its letters and withal so human and of such rare personal charm as to be beloved of all who came in contact with him Such was the man we mourn We grieve not only at the loss of leader and friend but also that death overtook him in the very shadow of the great conflict which brought him so great personal loss and sorrow and robbed him of the mellow years which were so fully his due

Incidence of Influenza—The U S Public Health Service reports the incidence of influenza for the month of January as being excessive In thirty-one states which have sent reports there were over 120 000 cases The mildness of the disease is generally commented on and it is believed that many physicians are not reporting mild cases of influenza Mortality reports from large cities indicate that from May 1919 to January 1920, the death rates from influenza and pneumonia were "quite generally below the general average" With the week ending January 17 which marked the beginning of the influenza epidemic in Chicago the death rate from influenza and pneumonia in Chicago increased slightly, but is still not in excess of the average for the season Similar significant increases have taken place in New York City Washington D C Milwaukee Kansas City Mo St Louis Cleveland San Francisco Albany, N Y Atlanta Ga Baltimore Cambridge Mass Columbus Ohio Dayton Ohio Indianapolis Jersey City N J Louisville Ky Minneapolis Newark N J New Haven Conn Philadelphia Pittsburgh Richmond Va St Paul Syracuse, N Y and Toledo Ohio

Regulations for Prescribing Liquors

A circular issued by the Commissioner of Internal Revenue gives explicit directions regarding Form 1403, prescription blanks for practicing physicians who have secured permits to prescribe liquor As stated in the abstract of Internal Revenue Regulations 60 (The Journal, Jan 31, 1920 p 342), it is first necessary for practicing physicians to secure a permit to prescribe Application for such a permit must be made on Form 1404 in triplicate, sworn to before a notary public These blanks can be secured from the federal prohibition director of the state or from the collector of internal revenue of the district in which the physician making application is located Permits will be issued only to physicians legally qualified to practice under the laws of the state The three copies when filled out are returned to the federal prohibition director After receiving a permit to prescribe, the physician is then supplied with Form 1403 on which prescriptions for alcohol and alcoholic liquors must be made out These prescription blanks are furnished in books of 100 blanks each A sample blank is reproduced in the adjoining column The books are serially numbered and each prescription blank in each book is also serially numbered with stubs attached Books must be returned to the director when the prescription blanks have all been used, or sooner if ordered by the director or the Commissioner of Internal Revenue All unused, mutilated or defaced blanks must be returned with the books

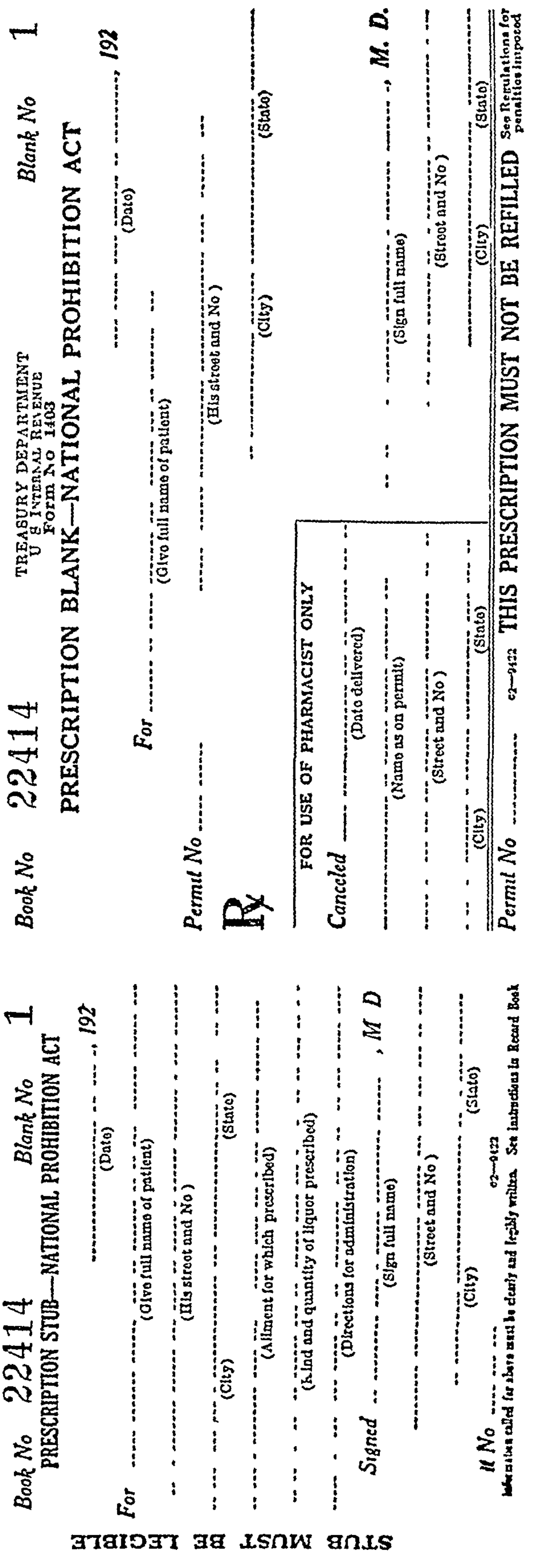
The state directors and the district collectors of internal revenue by whom these prescription books will be issued are directed to keep a record of the books issued to each physician Prescription books can be secured by physicians only after they have made application in triplicate on Form 1404 for a permit to prescribe and after the permit has been issued on Form 1405 No bond is required for such a permit A register is also issued to each physician in which must be recorded all prescriptions written for alcohol or liquors

Instructions regarding the administration of liquors in accordance with the regulations are explicit They read as follows

"Regulations No 60 provide that distilled spirits, wines and alcoholic medicinal preparations may be administered by physicians to their patients for medicinal purposes in cases where the use of such liquor is believed necessary to afford relief of some known ailment, and delay in procuring the same through a retail pharmacist upon a prescription might result in loss of life, aggravation of the ailment, or intense suffering Physicians may make application on Form 1404 for permit for this purpose, and if approved a permit will be issued by the commissioner to the physician to use the liquor in the course of his practice, and he may obtain as much as six (6) quarts of liquor during any calendar year, to be administered as stated above but he may not sell or furnish the same to such persons or to any other persons" Permits to prescribe may be issued by state prohibition directors, but permits to physicians to use liquor for administration to their patients must be issued by the Federal Prohibition Commissioner

Physicians are not permitted to write prescriptions for liquor for their own use, and the law provides that not more than a pint of spirituous liquor to be taken internally shall be prescribed for use by the same person within any period of ten days, and no prescription shall be filled more than once"

Druggists qualified to sell medicinal liquors are notified that all prescriptions for medicinal liquor must be on Form 1403 except that in any case where a physician holding a permit to prescribe liquor is not in possession of such a form due to any justifiable reason and where delay in procuring this form might result in loss of life, aggravation of the illness or intense suffering he may prescribe intoxicating liquor on a form other than Form 1403 provided such prescription contains all of the information called for on Form 1403 and a record of the prescription is made



Book No 22414 *Blank No* 1
PRESCRIPTION STUB—NATIONAL PROHIBITION ACT

............................, 192
(Date)

For ....
(Give full name of patient)

....
(His street and No)

....
(City) (State)

....
(Ailment for which prescribed)

....
(Kind and quantity of liquor prescribed)

....
(Directions for administration)

Signed ...., M D
(Sign full name)

....
(Street and No)

....
(City) (State)

R No .... 02—9422
Information called for above must be clearly and legibly written. See instructions in Record Book

STUB MUST BE LEGIBLE

Book No 22414 *Blank No* 1
TREASURY DEPARTMENT
U S INTERNAL REVENUE
Form No 1403
PRESCRIPTION BLANK—NATIONAL PROHIBITION ACT

............................, 192
(Date)

For ....
(Give full name of patient)

Permit No ....
(His street and No)

....
(City) (State)

℞

............................, M. D.
(Sign full name)

....
(Street and No)

....
(City) (State)

FOR USE OF PHARMACIST ONLY

Canceled ....
(Date delivered)

....
(Name as on permit)

....
(Street and No)

....
(City) (State)

Permit No .... 02—9422 THIS PRESCRIPTION MUST NOT BE REFILLED See Regulations for penalties imposed

Government Services

MEDICAL OFFICERS, UNITED STATES NAVY, RELIEVED FROM ACTIVE DUTY

ILLINOIS
Chicago—Benjamin H W

MICHIGAN
Detroit—Marsh A R

NEW YORK
Brooklyn—Schneider S
New York—Burk S B
Goldberg R M

TENNESSEE
Flatwood—Sharp T H.

Disease Conditions in the Army

For the week ending February 6, it is reported that influenza continues at many of the large camps and stations, principally among the eastern and southern states The number of new cases of pneumonia for that week was double the number reported for the previous week Admission and noneffective rates showed a slight decline There was a marked decline in the number of new cases of influenza measles and pneumonia occurring among the American forces in Germany The incidence of pneumonia in the camps in the United States is about one tenth of that accompanying influenza at the height of the 1918 epidemic. The mortality percentage was also much lower

Foreign Correspondence

PARIS

Jan 15, 1920

The Attitude of French Societies of Learning Toward German Savants

Notwithstanding the fact that the treaty of peace has gone into effect there are as yet no indications that relations between French and German men of science are about to be resumed It will be recalled that it was the attitude of the ninety-three signatories of the all too famous manifesto of German intellectuals that induced our academies to break with the German savants Before the war Germany had to a certain extent, reserved to herself the monopoly of treatises on natural science and France saw fit to buy and use them, but does not propose to do so longer The Societes françaises de sciences naturelles have recently formed a federation for the purpose of combating German enterprise in this field The Societes françaises de chimie have also formed a federation with the same object in view

It is interesting to note that the attitude of German men of learning during the Franco-Prussian War of 1870 1871 was far from being correct, just as was the case in the War of 1914-1918 Dr Leon Chemisse has published some extracts from the correspondence of the celebrated German jurist Rudolf von Ihering who, under date of Aug 23, 1870, wrote

Happy is the man who is permitted to play a part in this towering flight of our people! Never before in the history of any people has there been such a glorious epoch It is like the German tale of Cinderella who was suddenly raised to the rank of princess Thanks be to these dogs of Frenchmen for having up to the present time treated our people as Cinderella was treated The application of the story has thus been brought home to their conscience and the blows have fallen on their own shoulders The humiliation and weakness of France must ever remind Frenchmen of our cause for gratitude "

It may perhaps be assumed that the arrogance of the German mentality, which still persists in spite of everything and of which THE JOURNAL recently cited a typical example (THE JOURNAL Dec 20, 1919 p 1889) will be no slight obstacle to the resumption of normal relations with the scientists and scholars of the empires of 'Mitteleuropa'

Child Welfare in the United States

Dr P F Armand-Delille who was sent last year on a mission to the United States recently reported to the Académie des sciences morales et politiques his impressions of the child welfare movement in that country In his report he brought out the fact that in the United States the care of children's health has been thoroughly organized, and commended the system of visiting nurses, the consultations held in the homes with mothers and prospective mothers the teaching of hygienic rules and the care of the child who may be ill He also emphasized the value of the American federation of charity organizations which made possible a better utilization of charity funds from public and private sources He found that the heartiest cooperation prevailed which resulted in the greatest benefit to public health in general

This visit of Dr Armand Delille furnishes an additional example of the salutary influence that the United States is destined to exert on the development of public hygiene in France In a previous letter (THE JOURNAL, Jan 31 1920 p 338) I mentioned other evidences of such influence

Antipyrin and Anaphylaxis

Dr Fernand Widal, professor of clinical medicine at the Faculte de medecine de Paris in collaboration with Dr Pasteur Vallery-Radot has made an interesting report to the Academie des Sciences on an anaphylactic state produced by a nonalbuminoid substance—antipyrin A woman, aged 24, had formed the habit of taking antipyrin every month for the relief of headache During a period of nine years no untoward effects were produced but at the end of this period anaphylaxis appeared together with an intense pruritus at the level of the chin and lips, which became red swollen and painful This anaphylactic state was so persistent that it continued for seven years after the patient had completely abstained from the drug Widal and Pasteur Vallery Radot have been investigating for the purpose of discovering how small a dose must be to exclude all possibility of accident, and they find that it lies between 0 0001 and 0 0002 gm Patients to whom these minute doses are administered for a period of two months are desensitized completely and definitively and they can take antipyrin tablets without feeling the slightest discomfort

Widal remarked that analogous conditions doubtless existed for a number of substances that are ingested and inhaled He mentioned particularly the case of a merchant who after having sold mutton for more than thirty-seven years was no longer able to handle mutton without having an attack of asthma. Our temperamental nature may, then, be continually modified by the process of sensitization and desensitization, by anaphylactic shocks that take place totally unknown to us It seems that asthma, migraine, and certain other morbid states with which man is affected during certain periods of life, are obedient to the laws of anaphylaxis

Medical Relations with Poland

At the instance of Professor Letulle the first meeting of the Comite medical franco-polonais was held recently at the Faculte de medecine de Paris This committee which was presided over by Professor Roger, dean of the Faculte de medecine counts among its members a number of physicians of Polish extraction, for example, Dr Babinski hospital physician of Paris, Dr Danysz of the Institut Pasteur and Dr Ockinzyc, hospital surgeon of Paris A similar committee has been appointed in Warsaw and the hope is expressed that before long by means of journeys in the interest of science and by courses of lectures scientific relations between Poland and France may be restored

Vehicles for the Use of Cripples

Marshal Petain has taken steps to promote an exhibit of vehicles for the use of cripples, which will be held in the Grand Palais

LONDON

Jan 24 1920

A New Surgical Organization

The Association of Surgeons of Great Britain and Ireland at the inaugural meeting of which Sir Rickman J Godlee presided, owes its inception to the suggestion of Sir Berkeley Moynihan in 1914 England was then almost alone in having no representative society for the adequate discussion of surgical topics At a meeting held at the Royal College of Surgeons May 26, 1914, a committee was appointed to draw up rules and to circularize the members of the surgical staffs of hospitals connected with teaching schools The war interrupted the project and after more than five years, organization of the association has been effected Two main principles have been kept in view First the active membership of the association will be limited both in respect to members and to age Second the discussions will be free, in every meaning of the word and the expression of thought will be untrammeled by the dread that what might be said confidentially to a friend will be repeated in a garbled form from the housetops No reports will be sent to the journals or news papers, but the fellows will be at liberty to publish their communications when and where they choose appropriately in the *British Journal of Surgery* Experience of other countries shows the advantage of holding meetings at different centers but it is proposed that at least every third meeting shall be held in London It is hoped that stagnation in the directorate will be avoided by the annual change of president and one third of the ordinary members of council and continuity will be secured by the more or less permanent tenure of office by the honorary treasurer and secretary

Miners' Nystagmus

At a meeting of the North Staffordshire Institute of Mining Engineers Dr T L Llewellyn medical officer to the collieries of North Staffordshire declared that deficiency of illumination is the dominating factor in the causation of miners' nystagmus and in his opinion so important that all other factors become insignificant In the prevention of the disease three main considerations must be taken into account 1 Nystagmus is a disease of gradual onset, the average number of years of underground life before failure of sight is twenty-five 2 The illumination in open-light pits is five times that in safety-light pits 3 Cases of nystagmus although uncommon do occur in open-light pits

The True Nature of Multiple Exostoses

At a meeting of the Medical Society of London Prof Arthur Keith read an important paper on the true nature of multiple exostoses From the study of the roentgen-ray records of four cases of multiple exostoses he had come to the conclusion that the disease should be removed from the category of tumors and placed among the disorders of growth under the name suggested by Morley Roberts—diaphysial aclasis The exostoses which attracted the attention of the clinician are merely secondary results which mask one of the most remarkable disorders of growth In one case the patient was a private aged 20 in a labor battalion who was diagnosed in the Third Canadian General Hospital as suffering from multiple exostoses The lower ends of the femurs and the upper and lower ends of the shafts of the tibias represented an arrest of bone development which was to be anticipated if John Hunter s teaching on the growth of bones was correct Hunter was the first to perceive that the shaft of the long bones grew by a double process In the first process new bone is laid at the extremities of the shaft in the diaphysial lines, in the second which Hunter named the "modeling process" the cancellous bone laid down is rebuilt, trimmed and gradually converted into an architectural part of the shaft In diaphysial aclasis the modeling process is arrested hence between the properly formed part of the shaft and the epiphysial end there is interposed an irregular cylinder of imperfectly modeled bone on the surface of which there are several outgrowths Further investigation of the case showed that the diaphysial ends of all the bones of the body manifested a similar disturbance of growth the disturbance being greatest at the lines where growth is most vigorous and prolonged A clue to the true nature of the disease is given by noticing its incidence on the skeleton Bones formed in membrane or in cartilage are not affected It is only where the two processes—membrane formation and cartilage formation—come into juxtaposition that this disorder of growth occurred Hence it is most marked at the growing ends of diaphyses of long bones especially those where growth is greatest The proximal end of the humerus and the distal ends of the radius and ulna show a much greater disturbance of growth than the shafts which end at the elbow joint In the lower extremity growth is greatest at the diaphysial ends directed toward the knee, and there the disturbance is greatest but as there is also considerable growth at the proximal end of the shaft of the femur and at the distal ends of the tibia and fibula, these parts also exhibit ample evidence of the disease At these sites two different kinds of bone formation are in progress As bone is laid down within the growth disk (epiphysial line) in cartilage a covering of fibroblastic bone is being deposited by the growing margin of the overlying periosteum We have so concentrated our attention on the process of ossification which takes place in the cartilaginous growth disk that we have left out of sight the equally important processes which go in the ferrule of periosteum which surrounds the growth disk Consequently we are not prepared to encounter a dislocation in the harmony with which these two processes ought to proceed In achondroplasia the arrest of the growth is a partial cessation of the growth process which goes on within the cartilaginous disk In diaphysial aclasis the arrest lies in the growing edge of the periosteal ferrule Hence large areas of cartilage-formed bone are left exposed This arrest of periosteal formation is only temporary The modeling process which is attended by the deposition of periosteal bone goes on for years after all growth in length has ceased This conception of multiple exostoses is not new Hunter emphasized its constitutional nature Paget recognized it as an ossific diathesis due to some morbid condition of the blood Several German writers have recognized it as a disturbance of growth

Nephritis and Military Service

The discovery during the war of trench nephritis has led the Medical Research Committee to institute an inquiry into the condition of the soldier s kidney The main work devolved on Capt Hugh MacLean whose report involves an examination under war conditions of 50 000 men He began by attempting to find out whether there was a tendency during training for symptoms of kidney trouble to develop in ordinary recruits He found that only 2 per cent gave any indication of kidney mischief He concluded that no injurious effects are produced on the kidney by any of the conditions associated with training for active service The soldier during training does not appear to be more liable to deleterious kidney effects than is the civilian in ordinary life No relation between albuminuria and occupation was found Long service exercised no ill effects on the incidence It was thus evident that trench nephritis was not a condition carried over from civil life Further work confirmed this view Conditions such as length of service previous illness age and occupation seemed to play no part in its etiology Many of the cases developed in men who had been in the front area only a short time Other factors—diet infection water supply and so on—were excluded By elimination the conclusion was reached that the most probable cause of trench nephritis is infection by means of body vermin, probably lice The mortality from the disease was low in the first instance, but relapses occurred and some of the cases became chronic They were found to fall into the same groups as ordinary Bright s disease—interstitial and parenchymatous

Piteous State of Wounded Serbians—Serbian Surgeons to Be Trained in England

Sir John Lynn-Thomas the orthopedic surgeon of Cardiff who returned recently from Serbia paints a gloomy picture of the state of the wounded and disabled in that country The land is filled with cripples many of whom could be cured or improved by modern orthopedic methods The contrast between what has been accomplished in England by Sir Robert Jones and his co-workers and the state of the broken soldiers of our ally is piteous These men are without the simplest appliances and the country lacks surgeons with the requisite knowledge of the new methods It is felt by the Serbian Red Cross Society in Great Britain that the proper method to help these soldiers is to invite Serbian surgeons to come to this country to study British orthopedics under our most distinguished men This invitation has been sent and a favorable reply is expected

RIO DE JANEIRO

Jan 10 1920

Bubonic Plague

In the shipments of alfalfa and wheat imported from Buenos Aires rats infected with bubonic plague were discovered Shortly after several cases of plague occurred among the men working on the docks at Rio de Janeiro There were ten cases reported but no deaths

Institute of Medical Research

Dr Rocha Lima formerly of the Instituto de Manguinhos Rio de Janeiro and lately professor at the university and chief of the section on pathologic anatomy in the institute of tropical diseases in Hamburg has been offered the position of director for the Butantan Institute for Medical Research He is expected in Rio at the end of January when he will give a definite answer

Medical School Changes

Dr Alfredo de Andrade has been promoted to [illegible] sor of analytic chemistry and Dr [illegible] appointed in his place

Federal Department

The law creating the fede
was approved by President

tioned in a former letter, the creation of a ministry of public health did not meet the approval of congress There will be three boards under the supervision of the department namely, a board of health for Rio de Janeiro, a board of rural sanitation, and a board of maritime and fluvial prophylaxis Besides these, there will be sections dealing with sanitary statistics, sanitary engineering, the supervision of drains, the prevention of leprosy and venereal diseases, the supervision of the practice of medicine pharmacy, dentistry and obstetrics, and hospitals for contagious diseases and child welfare The federal government takes charge of meat and food inspection and of all the functions of the municipal health service

Under the law, a supreme council of hygiene and public health is appointed The following officials are members of the board the president of the department of health, the directors of the above mentioned divisions, the professor of sanitary engineering in the polytechnic school, the surgeon-general of the army the chief of the navy medical corps, and the government legal adviser The exclusion from this board of the professor of hygiene and of the dean of the medical school, as well as the president of the Academia de Medicina, was not favorably received in medical circles

The cost of rural prophylaxis and sanitation of the interior will be met by a special tax on alcoholic drinks, by the income from the different laboratories pertaining to the department of the interior, 15 per cent of the revenue of gambling houses, clubs and casinos at health resorts, and a stamp tax of from 20 to 200 reis on all tubes of serums, vaccines, opotherapic products and on all drugs either foreign or domestic Public opinion is not in favor of licensed gambling

Infectious Disease in Brazil

In an address to medical graduates, Dr Afranio Peixoto protested vehemently against the erroneous impression that Brazil is one great hospital Many prominent physicians seem intent to convince the public that there are scarcely any healthy persons in the population of 25,000 000 and that those who are lucky enough to escape from malaria or hookworm disease are infected with the Brazilian trypanosomiasis Just because Chagas saw some cases of the disease which bears his name in Lassance (state of Minas), one physician has gone to the extreme of asserting that 15 per cent of the population is infected with *Trypanosoma cruzi*

Election of Officers

At a meeting of the Sociedade de Medicina e Cirurgia December 30 the following officers were chosen president, Prof Fernando Magalhães, vice presidents Dr Iulio Monteiro and Dr Plinio Marques secretary-general Dr Leonel Gonzaga, secretaries Dr Edilberto Campos, Dr Arnaldo de Moraes and Dr Theophilo de Almeida, speaker, Dr Octavio Ayres, librarian Dr Catao, custodian of the museum, Dr Del Vecchio, and editor of the annals, Dr Guarany Goulart

Marriages

Eustace Harold Prescott, Lieut , M C U S Navy, Edgefield, S C, to Miss Alpha Hammond of Edgefield County S C at Augusta, Ga February 1

Benjamin Franklin Davis, Chicago to Miss Marie Lucile Brickson of Stoughton Wis, February 7

James Sylvester Antle, Utica, Ill, to Miss Margaret Walter of LaSalle Ill in Chicago, January 17

Albert Ward McCally, Dayton Ohio to Miss Edna Fiegenbaum of Edwardsville, Ill December 25

Charles Lyndon Outland Tarboro N C to Miss Alice Louise Sadler of Richmond, Va , January 21

Kinton Dorion, Lawrence Mass to Miss Angelina Tessier of New Bedford Mass, January 26

J J Fitzgerald, Granite City, Ill to Miss Georgia Coudy of Louisville, Ky December 3

Paul Wesley Best Atlanta, Ga , to Miss Louise Cotton of Waco Texas, January 21

Charles A Wade to Miss Florence Marie McGeehan, both of Chicago February 8

Lyman Overshiner Indianapolis to Miss Ella Ingles, in Indianapolis, December 13

Deaths

Correction—The obituary notice of Dr William J Humphrey Union City, Pa , which appeared in The Journal of Dec 27, 1919, was incorrect Dr Humphrey informs us that he is alive and well The source of information was a notice which appeared in an Eastern medical journal

Melvin George Overlock, Worcester, Mass , Baltimore Medical College 1896, aged 54, a member of the Massachusetts Medical Society, a specialist in tuberculosis, and instrumental in securing legislation requiring the maintenance of tuberculosis hospitals in cities and towns of Massachusetts, state medical health inspector, a trustee of the Worcester City Hospital since 1900, died in that institution, January 30, from diabetes

Oliver Thompson Hyde ⊕ Albuquerque, N M , College of Physicians and Surgeons in the City of New York, 1901, aged 44, a specialist in tuberculosis and for six years director of the St Joseph Sanatorium, Albuquerque, for several years resident director of a sanatorium in Silver City, N M , formerly a member of the faculty of Drake University, Des Moines, Iowa, died, February 2, from tuberculosis

Royal A Gove, Tacoma, Wash , College of Physicians and Surgeons, Keokuk, Iowa, 1878, aged 63, a member of the Washington State Medical Association, for twelve years secretary of the Pierce County Medical Association, for six years a member of the State Board of Medical Examiners, and for two years its chairman, from 1892 to 1896 a member of the city council, died, January 21

Francis Pollock Ball ⊕ Lock Haven, Pa , University of Pennsylvania, Philadelphia, 1877, aged 63, once president of the Medical Society of the State of Pennsylvania, who was one of the guests of honor at a banquet given by the Clinton County Medical Society in 1918, chief surgeon of the Lock Haven Hospital, died in Williamsport, Pa , January 31, from angina pectoris

William Henry Cook, Coffeen, Ill , Washington University, St Louis 1867, aged 85, a member of the Illinois State Medical Society, a charter member of the District Medical Society and for two years its secretary, one of the organizers of the Montgomery County Medical Society, and at one time its president, died January 28, from senile debility

James H Shorter ⊕ Macon, Ga , Long Island College Hospital, Brooklyn 1875, aged 69, oculist and aurist to the Macon Hospital and to the Southern Railway, a member of the American Academy of Ophthalmology and Oto-Laryngology and of the American Laryngological, Rhinological and Otological Society, died, February 2

Francis Torrens Stewart ⊕ Philadelphia Jefferson Medical College 1896, aged 45, professor of clinical surgery in his alma mater, since 1910 surgeon to the Jefferson and Germantown hospitals, and for twenty-five years a member of the surgical staff of the Pennsylvania Hospital, author of a manual on surgery, died, February 4, from uremia

Claude Dewes Hamilton, Canton, Ohio, College of Physicians and Surgeons Baltimore, 1913, aged 31, a member of the Ohio State Medical Association, who served as captain, M R C U S Army, and was discharged April 4, 1919, died in Phoenix, Ariz , January 30, from pulmonary tuberculosis

Fred Grey Benton ⊕ Major M C U S Army University of Syracuse N Y, 1912, aged 33, who entered the Medical Reserve Corps June 29, 1916, was graduated from the Army Medical School, June 10, 1917 and promoted to captain and major Aug 3 1918, died at Fort Aurora, January 18

Lyle Gunn Thornton ⊕ Lieut , M C U S Army, Westpoint Texas, Chattanooga (Tenn) Medical College, 1897, aged 45 physician of Colorado County Texas and assistant city physician of Westpoint, died at Fort Sam Houston, San Antonio Texas, January 15 from valvular heart disease

Ridgeley Brown Warfield ⊕ Baltimore, University of Maryland Baltimore 1884, aged 56, professor of surgery in his alma mater formerly associate professor of anatomy in Baltimore Medical College chief surgeon of the Maryland General Hospital, died, February 4 from heart disease

Harry A Medernach, Portland, Ore , Chicago College of Medicine and Surgery 1904, aged 42, who served during the war as a secretary of the Knights of Columbus, at Camps Lewis, Ballard, and Vancouver, Wash , died January 28

⊕ Indicates Fellow' of the American Medical Association

Richard Cooke Harley, Newark N J , George Washington University Medical School Washington D C 1904 aged 41, a member of the Medical and Chirurgical Faculty of Maryland, formerly health officer of Prince Georges County, Md , died February 4 from pneumonia

Henry Brown Conrad, South Bend Ind , Johns Hopkins University Baltimore 1916, aged 29 who resigned from an internship in Johns Hopkins Hospital to enter the Navy and was relieved from active duty with the U S N R F Nov 26, 1919, died, January 29 from pneumonia

Crandall Loughery, Montreal, McGill University Montreal, 1918 ager 28 who served with the Canadian Army Medical Corps in France in 1918 and 1919 a member of the staff of the Montreal General Hospital, died in that institution Oct 25, 1919 from bronchopneumonia

Peter Winston, Farmville Va , University of the City of New York, 1860, aged 83 a member of the Medical Society of Virginia, surgeon in the Confederate Service during the Civil War, for fifteen years physician to the State Normal School, died about January 30

Sally Robinson Creighton Best, New York City Cornell University New York City 1899 aged 50, a member of the executive committee of the American Woman s Hospitals and active during the war in the censorship of drugs for the government, died February 6

Frank C Hershey, Carmel Ind Medical College of Indiana, Indianapolis 1894, aged 53, a member of the Indiana State Medical Association, health officer of Hamilton County, died February 4 from septicemia due to a slight scratch of the hand

John W Starr, Pocahontas Iowa (license Iowa examination, 1889) , aged 61, a member of the Iowa State Medical Society, once secretary and treasurer of the Pocahontas County Medical Society and city physician died January 17, from angina pectoris

William Francis Gillim, Chicago, University of Louisville Ky , 1871, aged 73, a member of the Kentucky State Medical Association for many years a practitioner of Owensboro, while returning to his old home in Owensboro February 4 died at Evansville, Ind

Boyer Smith Kofford, Youngstown Ohio, University of Buffalo, N Y , 1917, aged 25, lieutenant M C U S Army with service overseas and discharged Feb 15 1919 a member of the staff of the Youngstown Hospital, died January 27, from pneumonia

Frank Boutelle Fuller ⊕ Pawtucket R I Harvard University Medical School 1878 aged 66, acting superintendent of health of Pawtucket, for several years medical examiner (coroner) for the Pawtucket district, died January 23 from heart disease

Beauregard Ross Merritt, Fancy Farm Ky , Marion-Sims Medical College St Louis, 1891 aged 50, a member of the Kentucky State Medical Association one of the owners of the Dawson Springs Sanitarium, died in that institution January 24

Marvin William Duckwall, Dayton Ohio Miami Medical College Cincinnati 1902 aged 40 a member of the Ohio State Medical Association for many years a member of the board of St Elizabeth s Hospital died February 1 from tuberculosis

Milton Harlan Cloud ⊕ Masontown Pa Miami Medical College Cincinnati 1886 aged 62 a director and for several years vice president of the Masontown Bank vice president of the Masontown Glass Company died January 27 from meningitis

Robert Bruce Duncan, Petaluma Calif Missouri Medical College, St Louis 1873 aged 73 coroner and public administrator of Colusa County in 1888 twice health officer of Petaluma died in the Petaluma Hospital January 3

Joseph P Ralston, Jr ⊕ Houston Texas University of Texas Galveston 1896 aged 49 was crushed between the elevator and the wall of the elevator shaft in the Kress Building Houston February 2 and instantly killed

Raymond Jack Hauser ⊕ Lieut M C U S Army Danville Pa , University of Pennsylvania Philadelphia 1910 aged 33 on duty at Camp Grant Rockford Ill died January 18 from pneumonia complicating influenza

Alexander John Macaulay, Brockville Ont , Trinity Medical College Toronto 1888 aged 55 medical officer of health of Brockville, president of the Ontario Medical Health Officers Association in 1906 died October 27

William Alexander Molson, Montreal McGill University Montreal 1874 M R C S (Eng) 1875 coeditor of the *Canada Medical and Surgical Journal* from 1879 to 1882 died, January 5, from cardiorenal disease

Richard F Boonstra, Detroit University of Michigan Ann Arbor 1913 aged 31 lieutenant M C U S Army on duty with the air service and discharged March 4 1919 died January 30 from pneumonia

Rollin Alanson Curtiss, Stratford Conn University of the City of New York 1893 aged 53 a member of the Connecticut State Medical Society died January 28 from cerebral hemorrhage

Logan M Thompson, Atlanta Mo College of Physicians and Surgeons Keokuk Iowa 1880 aged 61 a member of the Missouri State Medical Association, died in Macon, Mo January 19

Charles Henry Waters, Dawsonville Md University of Maryland Baltimore 1871 aged 70 for many years pastor of the Trinity Baptist Church near Dawsonville Md died January 26

Morgan Shell Evans, New Orleans Tulane University New Orleans 1917, aged 26 an intern in the State Charity Hospital Natchez Miss died January 21 from tubercular meningitis

William Harrison Wilson ⊕ Johnson City N Y Bellevue Hospital Medical College 1888 aged 56 physician and surgeon to the Binghamton City Hospital, died about January 23

J Sion Smith, Fort Wayne Ind Fort Wayne (Ind) College of Medicine 1891 aged 71 superintendent of several branches of the Bass foundries Fort Wayne died January 24

Jesus Monagas, Mayaguez P R University of Barcelona Spain 1883 aged 58 a member of the Porto Rico medical Association, died January 27 from cirrhosis of the liver

Edwin T Myers, Netawaka Kan Western Reserve University Cleveland 1876 aged 63 a member of the Kansas Medical Society died January 23 from chronic nephritis

William H. Clarkson, Blair Okla Memphis (Tenn) Hospital Medical College 1889 aged 58 a member of the Oklahoma State Medical Association died December 13

Otto James Blessin, Galesburg Ill Hahnemann Medical College Chicago 1901 aged 40 captain M R C U S Army and discharged Jan 18 1919 died January 29

James Emmett Vaughan ⊕ Lynchburg Va Lincoln Memorial University Knoxville Tenn 1893 aged 60 died Dec 18 1919, from chronic interstitial nephritis

William A Paschall, Franklin Tenn Vanderbilt University Nashville Tenn 1881 aged 60 died at the Woman s Hospital Nashville January 31 from pneumonia

John Alexander Landis, Oklahoma City University of Tennessee Nashville 1860 aged 82 died at the home of his daughter in Brownsboro Texas January 24

Joseph William Martin, DuBois Neb University of Nebraska Omaha 1903 aged 52 died at the home of his mother in Pawnee City Neb January 23

Charles Ash Bower ⊕ Mitchell S D Hahnemann Medical College Chicago 1900 aged 44 was drowned while bathing at Lake Worth Fla January 21

Caleb F Elkins, Liege Mo American Medical College Eclectic St Louis 1901 mayor of Liege and health officer of Montgomery County died January 26

John F Shaw, Wilkes-Barre Pa Medico Chirurgical College of Philadelphia 1895 aged 66 also a druggist died February 1 from cerebral hemorrhage

William Gwathmey, Beulahville Va Medical College of Virginia Richmond 1898 aged 40 a member of the Medical Society of Virginia died January 5

Edward Hills Lake, San Francisco St Louis College of Physicians and Surgeons 1895 while on his return from Australia died at sea January 28

Patrick James Hughes, Lawrence Mass University and Bellevue Hospital College 1907 aged 41 died January 26 from pulmonary tuberculosis

Robert G Langsdale, Middletown Ohio Medical College of Ohio Cincinnati 1881 aged 71 died in [illegible]lletown City Hospital January 26

H Moses Brooks, Olivebranch N C
land Baltimore 1879 aged 64 died
pital in Charlotte N C

John M Grant ⊕ St Louis, Missouri Medical College, St Louis, 1889, aged 55, a specialist in surgery, died, January 29, from pneumonia

A Malen Spangler ⊕ Pageton, W Va , College of Physicians and Surgeons, Baltimore, 1892, aged 53, died, January 18, from diabetes

Joseph L Anderson, Tarentum, Pa , College of Physicians and Surgeons, Baltimore, 1883, aged 65, died, January 27, from pneumonia

James T Parker, Chauncey, Ga , Southern Medical College, Atlanta, 1897, aged 44, died in a hospital in Macon, Ga , January 30

Joel J Foulon ⊕ East St Louis, Ill , Missouri Medical College, St Louis, 1887, aged 57, died, January 23, from heart disease

John Maynard Gulick, El Paso, Ill , Northwestern University Medical School, 1891, aged 53, died, January 15, from endocarditis

Nicholas R Marshall, Evanston, Ill , Rush Medical College, 1867, aged 76, a veteran of the Civil War, died, February 3

Alban Thomas Cuzner, Gilmore, Fla , College of Physicians in the City of New York, 1864, aged 80, died, January 18

Edward Martin Cherry, San Francisco, Cooper Medical College, San Francisco, 1899, aged 46, died, about January 30

Cyrus V Luke ⊕ Woodworth, Ill , Illinois Medical College, Chicago, 1899, aged 44, died, January 16, from brain tumor

Joseph Talbot Maclean, New York City, Bellevue Hospital Medical College, 1876, died, January 28, from pneumonia

John M Pierce, Rogersville, Tenn (license Tennessee 1889), aged 73, for many years a druggist, died, December 16

Archibald Gooding Servoss, Havana, Ill , Jefferson Medical College, 1886, aged 54, died, January 22, from gastric ulcer

Oliver Frank Harper, Baltimore, Atlanta (Ga) School of Medicine, 1911, aged 30, also a chemist, died, January 22

Emory Lanphear, St Louis, Missouri Medical College St Louis, 1881, aged 60, died, in Citrus Park, Fla , February 6

Philip Gray Sanderson, Detroit, University of Illinois, Chicago, 1899, aged 53 died January 28, from pneumonia

Ralph Emerson Buck, Newfield, N J , Rush Medical College, 1894, aged 49, died, February 4, from acute gastritis

James A Fraser, Lexington, Mich , University of Vermont Burlington, 1886, aged 60, died about January 29

L C Goneke, Springvale, Ga , Atlanta (Ga) Medical College, 1884, aged 60, died January 27, from dysentery

Frederick Woodhull, Hartney, Man , Trinity Medical College, Toronto 1886, aged 56, died in October, 1919

Walter Westlake Hoare, Walkerville Ont , Queens University, Kingston, Ont 1864, aged 83, died January 29

Samuel L Inman ⊕ El Paso, Texas, Marion-Sims College of Medicine St Louis, 1897, aged 54, died, recently

Edmund B Echlin, Ottawa, Ont , Queens University, Kingston Ont , 1891 aged 56, died, Dec 12 1919

Sabritt Scruggs, Rolla, Miss , Kentucky School of Medicine, Louisville 1866 aged 80, died, January 27

William Bilbro Palmer, Audubon, Texas, University of Nashville Tenn 1887, aged 70, died, January 21

D Luke Gavin, Shubuta Miss , Louisville (Ky) Medical College 1898, died in Chicora Miss January 31

Frederick Roderick Dew, Weston, W Va Baltimore Medical College, 1905, aged 40, died, January 31

Daniel Justin McSweeney, Boston, Harvard University Medical School, 1903, died, about January 20

Renwick W Bartley, Marion Ind , Loyola University, Chicago, 1880, aged 74, died January 25

James T Croney, Lima Ohio (license, Ohio, years of practice, 1896), aged 75, died, January 21

Nicholas J Hopkins, Dunnville Ont (license, Ontario, 1869), aged 77, died Nov 7, 1919

P W Logan, Knoxville, Tenn , Jefferson Medical College, 1861, aged 80, died, January 28

J C Barker, Lebanon, Mo (license Missouri, 1884), aged 84, died January 18

Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Fraud on the Public and on the Profession

EUMICTINE

Report of the Council on Pharmacy and Chemistry

The Council has adopted and authorized publication of the report which appears below This report declares "Eumictine" ineligible for New and Nonofficial Remedies because (1) it conflicts with Rule 10 in that it is unscientific and useless, (2) it conflicts with Rule 6 in that it is *sold under unwarranted therapeutic claims,* (3) it conflicts with Rule 4 against indirect advertising to the public in that the name "Eumictine" is blown in the bottle for the obvious purpose of bringing the product to the attention of the public when it is prescribed in the original package and (4) because the name is therapeutically suggestive and not in any way descriptive of its composition

W A Puckner Secretary

Eumictine is a preparation from the laboratory of Maurice Le Prince Paris, France, and is marketed in this country by George J Wallau Inc , New York It is claimed that the product is 'a balsamo-antiseptic preparation composed of *Santalol, Salol and Hexamethylene-Tetramine,* in the form of gluten-coated capsules" Nowhere in the advertising are the amounts of the ingredients given According to the American agent, however, "*each capsule is supposed to contain* 20 centigrams of Santalol, 5 centigrams of Salol, 5 centigrams of Hexamethylene-Tetramine"

Eumictine is advised 'in treating genito-urinary diseases (urethritis, cystitis, prostatitis, pyelitis etc)" It is claimed to be both an antiphlogistic modifying agent, a well-tolerated diuretic" which "may be administered for long periods without ill effects"

The Council declares Eumictine ineligible for New and Nonofficial Remedies because it is exploited in conflict with the following rules

It is unscientific (Rule 10) Eumictine is composed of hexamethylenamin salol and santalol in fixed proportions Hexamethylenamin may serve a useful purpose in some forms of infection of the urinary tract, but neither it nor salol are of any considerable value in gonorrhea It is now known that the balsamic preparations formerly so widely used, do not have the curative effects in gonorrhea and associated conditions that used to be ascribed to them To combine three substances, none of which has any distinct *therapeutic value in the conditions for which Eumictine is* proposed does not enhance their value There is nothing original *in the combination used in Eumictine, or in the* manner of dispensing it

It is sold under unwarranted therapeutic claims (Rule 6) These claims are made not only for the components of Eumictine but for the combination itself Though santalol has certain advantages over the *somewhat variable oil of* santal and other balsamic resins, it is not true that santalol does not cause congestion of the renal epithelium" or that it does not 'produce exanthema as do copaiba, cubebs, and the ordinary santal oil" It is not true that salol is "devoid of toxicity" Neither is it correct to say that salol "asepticizes and disinfects the bladder, the prostate and the urethra" The claim that hexamethylenamin "is of value when *any* acute symptoms or tendency to inflammation subsist" is not justified The claim that hexamethylenamin "renders soluble the uric acid and urates" is also without foundation The fol-

QUERIES AND MINOR NOTES

second tube 1 2 c c of physiologic sodium chlorid solution and two drops of the patient's serum The tubes are incubated at 37 C for one hour The requisite number of drops of amboceptor and 0 5 c c of a 5 per cent suspension of corpuscles (hemolytic system) are then added to each tube, these are incubated until complete hemolysis of the control The tubes are centrifuged and the results are read It is advisable to use two doses of antigen for each test, one the maximum titer, the other dose sensibly less Three tubes will then be necessary instead of two The test should be made as soon as possible after obtaining the patient's blood

THERAPEUTIC VALUE OF DIGITALIS

To the Editor —Please refer me to the recent literature on the therapeutic value of digitalis as disclosed by recent investigations and tests

J A Speed, M D, Durham, N C

Answer —The literature contains a vast number of articles pertaining to digitalis, a general discussion of digitalis may be found in such recent works as Frederick Forchheimer's "Therapeusis of Internal Diseases" edited by Frank Billings and E E Irons, "A Manual of Pharmacology," by Torald Sollmann, or "Useful Drugs" published by the Council on Pharmacy and Chemistry The subjoined references are to some of the leading articles of the last ten years

Hatcher R A, and Brody J G A Biological Standardization of Digitalis *Am J Pharm* 1910 p 360

Hatcher R A The Persistence of Action of the Digitalins *Arch Int Med* **10** 268 (Sept) 1912

Hatcher R A The Elimination of the Digitalis Bodies The Journal Aug 9 1913 p 386

Eggleston Cary Biologic Standardization of Digitalis Bodies by the Cat Method *Am J Pharm* **85** 99 (March) 1913

Eggleston, Cary Clinical Observations on the Emetic Action of Digitalis The Journal Sept 6 1913 p 757

Hatcher R A and Eggleston Cary The Stability of the Infusion of Digitalis The Journal Nov 27 1915 p 1902

Roth G B Standardization of Digitalis Bull 102 Hyg Lab U S P H S p 5

Barker L F and Bridgman, E W Extreme Prolongation of Conduction Time in the Bundle of His, an Example Resulting from Digitalis Therapy The Journal March 24 1917 p 903

Rowntree L G and Macht D I The Standardization of Digitalis and the Potency of American Grown Digitalis The Journal March 18 1916 p 870

Eggleston Cary Influence of Large Doses of Digitalis and Digitoxin on the Blood Pressures in Man The Journal Sept 22 1917 p 951

Hatcher R A Digitalis Therapy and the Present Shortage of Drugs The Journal Nov 3 1917 p 1524

White S M and Morris R F The Eggleston Method of Administering Digitalis *Arch Int Med* **21** 740 (June) 1918

Pratt J H Digitalis Therapy The Journal Aug 24 1918 p 618

Hatcher R A, and Eggleston Cary Study in Elimination of Certain Digitalis Bodies from Animal Organisms *J Pharmacol & Exper Therap* **12** 405 (March) 1919

Pratt J H and Morrison Hizman The Activity of American Digitalis The Journal Nov 22 1919 p 1606

Pardee H E B Notes on Digitalis Medication The Journal Dec 13 1919 p 1822

Levine S A Potency of Some French Digitalis Preparations *Boston M & S J* **182** 64 (Jan 15) 1920

In addition to the foregoing two reports by the Council on Pharmacy and Chemistry (The Journal Sept 5 1914 p 881, and Dec 4, 1915 p 2024) and also a number of short reports and abstracts appearing in the November 1919 issue of the *Journal of the American Pharmaceutical Association* (pp 900 to 928) should be consulted

INTRAVENOUS ADMINISTRATION OF SODIUM SALTS IN COMBINATION

To the Editor —Can you tell me whether it is safe to give sterile solution of sodium salicylate and sodium iodid intravenously? Is their combination compatible with the blood stream without any special preparation? If it requires special preparation and cannot be made up by the practitioner or ordinary pharmacist can you inform me of any reputable preparation for use?

W D Chase M D Bethlehem Pa

Answer —The danger from the intravenous administration of solutions of sodium salicylate or of sodium iodid are those inherent in the intravenous method of drug administration Since the effect of salicylates and of iodids may readily be attained by oral administration of sodium salicylate or other salicyl preparations and of sodium iodid or one of its substitutes the intravenous administration is rarely if ever, necessary or warranted Solutions for intravenous use must be sterile, but pharmacists should have little difficulty in furnishing satisfactory products The objections to the unnecessary use of the intravenous method of administering drugs were discussed in The Journal, Nov 11, 1916 p 1450 The intravenous administration of salicylates was discussed in The Journal, Oct 28, 1916, p 1319

"THE NEW DU PONT ETHER"

To the Editor —Please let me know what information you have about the enclosed clipping

E W Carpenter, M D Greenville, S C

To the Editor — "Cotton Process Ether" manufactured by the Du Pont Co has been given considerable notoriety in the lay press A letter of inquiry addressed to the firm elicits the information that Cotton Process Ether is a very highly refined Di ethyl Ether charged with Ethylene Gas What is your opinion of the Cotton Process Ether? Has the Council on Pharmacy and Chemistry investigated this product?

John L Atlee M D, Lancaster Pa

To the Editor —I have been waiting for some reference to the new anesthetic referred to in the enclosed clipping but if any has been made in the medical press I have failed to notice it If there is anything of interest in connection with this item and it is not too much trouble I will thank you to put me in touch with the situation

Holman Taylor M D, Fort Worth Tex

Answer —About January 20, the "News Service" of the "E I Du Pont De Nemours and Co, Inc," circularized the press of the country with what it was pleased to term a "good filler", this particular piece of press agent work dealt with "The New Du Pont Ether" To quote one paragraph from the "News Item"

> The new anesthetic which is a highly refined di-ethyl ether, modified by the addition of gases, has the following characteristics (1) the property of inducing and maintaining anesthesia with practical freedom from postoperative nausea and (2) the property of inducing and maintaining analgesia (conscious insensibility to pain) as distinguished from anesthesia (insensibility to pain plus narcosis)

The Du Pont Ether and the claims made for it are seemingly based on the work of one man "James H Cotton, M A M D, Toronto Canada" who published an article on "Cotton Process Ether and Ether Analgesia" in the *American Journal of Surgery* for April, 1919 However, Cotton did not give the composition of the "new" ether nor, so far as we are aware, has his work been corroborated In view of the inquiries received, the Secretary of the Council on Pharmacy and Chemistry asked the Du Pont Chemical Works for the composition of the new ether From the firm's reply we quote one paragraph

> "The procedures of manufacture, and the exact composition of our ether we regard as confidential information which we are entitled to retain unless a condition were to arise in which we were unable alone to satisfy the demand for this type of ether"

It has been recognized—and incorporated in the "Principles of Medical Ethics"—that the use of a therapeutic agent of unknown composition is unscientific and contrary to the best interests of the medical profession and the public, but it is many times more serious for a physician to employ a secret or semisecret substance as an anesthetic A physician using such a semisecret substance would have little defense if the patient should die

VERONAL (BARBITAL) ADDICTION

To the Editor —Can you give me information about veronal addiction? I have a patient who is addicted to this drug but I cannot find much in the literature about veronal addiction and its treatment He has taken treatment at several hospitals but they always send him out using his veronal This case might be interesting to the medical profession as veronal is being used a great deal by them at present

A B C

Answer —Constant use of even small doses of barbital (veronal) affects the central nervous system, especially the cerebellum and the vestibular portion of the cochlea Those taking the drug habitually become much debilitated and seem less able to stand moderate doses Death has occurred from a 3 gm dose in addicts, while recoveries are known after a single dose of 10 gm in others Fog (*Ugesk f Læger* **79** 370 [March 8] 1917) treated a case of addiction by gradually substituting antipyrin salicylate in the powders which were being taken until the patient was getting no barbital at all In England barbital and its closely related derivatives have been classed as poisons, and as such are subject to the same regulations that apply to the sale of narcotics

PELVIC VARICOCELE

To the Editor —Please give a notation of recent literature on varicose veins of the broad ligament

W F Sihler M D Devils Lake N D

Answer —The following references are taken from the Quarterly Cumulative Index

Wall J A Pelvic Varicocele *Surg Gynec & Obst* **23** 62 (July) 1916
Darnall W E Varicocele in the Female *Med & Surg* **1** 624 (Aug) 1917
Jewett W A Pelvic Varicocele *Am J Obst* **75** 500 (March) 1917
Furniss H D Pelvic Varicocele *Am J Obst* **75** 152 (Jan) 1917

Book Notices

Contributions to Medical and Biological Research Dedicated to Sir William Osler Bart , M D F R S in honor of his seventieth birthday July 12 1919 by his pupils and co workers Two volumes Pp 1268 Paul B Hoeber New York Edition limited to 1 600 copies

In these two large octavo volumes have been collected essays by some of the numerous pupils and co-workers of the late Sir William Osler They are issued as a tribute to him on his seventieth birthday The 142 essays are contributed by 151 writers including 106 American 33 English 10 Canadian and 2 Scotch physicians, they are scientific historical and literary As might have been expected of such a large number of articles, there are variations in quality Some are notable, others unusually good and some of ordinary character A few—happily only a few—are not quite worthy of a place in this series In general it may be said that the articles on historical, educational and social subjects distinctly surpass in literary quality and general interest those of a scientific or clinical nature This is perhaps accounted for by the very nature of things since the research worker or clinician could not produce a special study for this purpose but must needs report work already done and use something already published or perhaps rewrite for this purpose

The first volume opens with a frontispiece—a steel engraving of Sir William Osler—an excellent likeness Following is a beautiful proem by Sir Clifford Allbutt In an editorial note the committee states the purpose and method of preparation of these volumes The first twenty-eight essays are by British and Canadian physicians Mr Acland in the first article, describes the Oxford University Museum The article is well illustrated with especially fine half-tone photographs of the museum and is a most interesting account of the relation to this museum of some of the predecessors of Sir William Osler in the chair of medicine at Oxford It is brought out that John Ruskin was in part responsible for the designing of this structure The second essay is a timely discussion of graduate study in London by Professor Adami, who is well adapted to the task through his Canadian experience his experience in the world war and his intimate knowledge of conditions in America Following two historical essays are some personal reminiscences of Sir William Osler by Dr Crozier describing the early life of the great teacher

A notable essay is that of Sir Auckland Geddes entitled 'Social Reconstruction in the Medical Profession Sir Auckland is intimately associated with reconstruction programs in Great Britian and is largely responsible for the establishment of the Ministry of Health His views therefore are of great importance It is interesting to note that in his opinion 'the medical profession in Great Britain with brilliant exceptions is in the main composed of men who are immature as citizens and in quite a separate compartment of their being possess expert technical knowledge too often on sale to the highest bidder'

As is usual with his writing Dr Arthur Keith contributes a notable historical essay on the Hunterian School Most fascinating is a description by Dr Macalister secretary and editor of the Royal Society of Medicine of an institution which exists in medical Utopia the Osler Library This institution, which the author has visited in his dreams is the medical library *par excellence* The essay must be read to be appreciated Librarians will overlook a great opportunity if they fail to adopt some of Dr Macalister s suggestions

As is usual also Sir Humphrey Rolleston contributes a notable essay on Thomas Trotter, physician of the Grand Fleet in 1780 The well known historians Charles and Dorothea Singer of Oxford describe a miniature depicting an operation The miniature is beautifully reproduced in colors

There follow essays on some seventeenth century writings on the endowment of research on Galen Plato and Immortality and on 'Fragment of a Persian Primer Sir Clifford Allbutt discusses Innate Heat

The next essay has the fascinating title "On the Sizes of Things or the Importance of Being Rather Small' which develops into a discussion of the coleoptera and the reaction of bacteria on the human organism A most interesting essay is that of F Parkes Weber Thinking and Dreaming and the Explanation of Dreams Those acquainted with his notable book on the Aspects of Death will find this essay all that might be expected of the author

Professor Anders writes on Myxedema and Cretinism Dr C C Bass on 'Malaria' , Dr Norman Bridge has a note on "Pulmonary Streptothricosis' as observed in California Dr N S Brill of New York writes on Typhus Fever Dr Thomas Cullen of Baltimore describes a special sign noted in the umbilicus, Dr Edsall describes poisoning with manganese as it occurs in the industries All of these essays as those familiar with medical literature know concern subjects which have interested their writers for many years and in which they have made notable advances

The second volume opens with a discussion by Dr Frank Billings on the 'Rehabilitation of the Disabled' Brigadier General Munson has a brief essay on Military Morale' Dr C L Dana who acted as editor, contributes an essay 'A Psychotic Episode in Roman History The late Mortimer Frank has an interesting historical article and Dr Fielding Garrison a charming essay entitled Physicians Letters Very timely is the note by Guy Hinsdale describing epidemics of influenza in 1647 1789 and 1807 as they were recorded by Noah Webster Benjamin Rush and Daniel Drake Particularly interesting is a note by Dr Henry Hurd on Sir William Osler s relation to the Johns Hopkins Hospital, a note no one would be more fitted to write, and in the same manner, Dr George M Kober discusses the influence of Osler on American medicine Space forbids even a mention of all the articles and authors One interesting article follows another promising the reader many valuable hours with these valuable essays reminding him of the greatest work which any great physician can do the instruction of students leading to the production of great thinkers who will follow in his footsteps

Mechanically the books are excellent printer and publisher having done their work well There are many half tones of artistic and historical merit The selection of the type the spacing paper and binding could hardly have been improved on The delay in publication due to the long printer s strike in New York was unfortunate and unavoidable It was especially unfortunate because the books in their final form reached Oxford only two days before Sir William s death These volumes represent a large amount of labor on the part of the committee which may well take pardonable pride in the results of their efforts

Gun Shot Fractures of the Extremities By Joseph A Blake Lieutenant Colonel Medical Corps U S A Paper Price 4 francs Pp 156 with illustrations Paris Masson et Cie 1918

While this little book is essentially a work on war surgery it contains much that may prove of value to the surgeon in civil life particularly with regard to the application of splints bandages and extension apparatus to compound fractures Virtually all the material presented has been described and discussed repeatedly in every surgical journal of consequence during the past three ye[illegible] it should be fairly familiar Neverthele[illegible] authoritative summary of the s[illegible] sufficient details for general [illegible]

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA Juneau Mar 2 Sec Dr L O Sloan Juneau

ARIZONA Phoenix April 6 7 Sec, Dr Ancil Martin, 207 Goodrich Bldg Phoenix

COLORADO Denver April 6 Sec Dr David A Strickler 612 Empire Bldg Denver

CONNECTICUT *New Haven and Hartford March 9 10* Sec Reg Bd, Dr Robert L Rowley Hartford Sec Homeo Bd Dr Edwin C M Hall 82 Grand Ave New Haven Sec Eclectic Bd Dr James Edwin Hair 730 State St Bridgeport

FLORIDA Jacksonville March 16 Sec Homeo Bd, Dr Geo A Davis East Port

IDAHO Boise April 6 Commissioner Hon Robert A Jone Boise

ILLINOIS Chicago Mar 1 3 Director, Mr Francis W Shepardson *Springfield*

IOWA Iowa City March 29 31 Sec Dr Guilford H Sumner Capitol Building Des Moines

MAINE Portland March 9 10 Sec Dr Frank W Searle 140 Pine St Portland

MASSACHUSETTS Boston March 9 11 Sec Dr Walter P Bowers Room 144 State House Boston

MINNESOTA Minneapolis April 6 8 Sec, Dr Thos McDavitt Loury Bldg St Paul

MONTANA Helena April 6 Sec Dr S A Cooney Power Bldg Helena

NATIONAL BOARD OF MEDICAL EXAMINERS St Louis and Chicago Feb 18 25 Sec, Dr J S Rodman 1310 Medical Arts Bldg Philadelphia Pa

NEW HAMPSHIRE Concord March 11 12 Sec Dr Charles Duncan Concord

OKLAHOMA Oklahoma City *April 13 14 Sec, Dr J M Byrum* Shawnee

RHODE ISLAND Providence April 1 2 Sec Dr Byron U Richards State House Providence

WEST VIRGINIA *Charleston April 13* Sec Dr S L *Jepson* Masonic Bldg Charleston

GRADUATE MEDICAL EDUCATION

J M ANDERS M D LL D
PHILADELPHIA

The present position of undergraduate medical education in this country may be said to be satisfactory as the result of systematic efforts at standardization although the principle that related departments should work together in order that the various problems connected with individual diseases may be viewed at once by the student needs to be more widely applied On the other hand, graduate training has not been developed to a commendable extent Before indicating some lines of reform in graduate training, it might be well for me to recite a few fundamental facts which show the vastness of the problem and also the needs of the large number of practitioners and specialists who present themselves for instruction

THE GENERAL PRACTITIONER AND THE NEEDS OF THE COMMUNITY

The busy physician cannot keep pace with the remarkable and continuous additions to our knowledge of the modern methods of diagnosis and treatment, as well as the prevention of disease and the laboratory technic Many of those who seek help enjoyed meager opportunities for the study of the basal sciences and clinical training while at a medical college not to speak of the well known paucity of laboratory facilities Now the aim and purpose of graduate teaching should be primarily to maintain an adequate medical service, and to accomplish this the needs of the general practitioner must be fully recognized But though modern movements in the practice of medicine are everywhere evidenced by a tendency toward specialization the general practitioner has not been displaced Says Lyon[1] in this connection 'I predict that general practice will endure will adjust itself to specialism and to group medicine and to public medicine"

Among those vitally interested in postgraduate medical education are some who would restrict training to the higher grade of practitioners and to those who desire instruction in special subjects as well as in the medical specialties By exacting certain entrance requirements, they would exclude a large contingent of medical practitioners who apply for needed help they would, in short, practically abandon the so-called polyclinic courses It seems to me that ways and means should be found to assist all classes of physicians, excepting the so called hopeless cases Requirements for acceptance should be waived in the case of those who are in good standing and who merely wish to improve their diagnostic and therapeutic skill by taking an intensive practical course It has been well said that the general practitioner is the foundation of any medical service, its "first pivot, its anchor, its instrument"

The creation of the Medical Reserve Corps of the army during the recent world war disclosed a not inconsiderable class of physicians who were professionally inefficient, but many of these finally reached the medical training camps after being subjected to a process of filtration It seems to me that owing to the care and caution exercised by the Surgeon-General to make certain that all medical officers receiving appointment were men of good professional standing and fair attainments they should be admitted to the polyclinic and other courses of our graduate schools without examination or preliminary test of any sort Munson[2] points out that for many of those not found qualified, special schools and 'salvage classes were organized, and they were thus rendered competent for efficient military duty The war having taught us the great value of practical and intensive courses in preparation for commissions in the army and navy, it is obvious that brief polyclinic courses (e g, of four months as the minimum) should hold a definite place, for the present, at least in our graduate schools, so as to qualify the professionally inefficient for civilian service

One factor which bears specifically on *this aspect* of the subject is the precept that above the interests of the medical school for graduates stand the interests of the general public These interests may not be ignored in planning the scope and curriculums of our postgraduate institutions There was a time easily recollected by the majority of the present generation of physicians, when in our undergraduate schools, the courses in pathologic anatomy, including the performance of necropsies, in microscopy, physical diagnosis, laboratory methods in bedside clinical training and other branches were on a scale far from commensurate with their importance The men and women who were graduated under the old order of things and the same may be said of all who have been engaged in general practice for a few years even cannot as stated above, keep abreast with the more recent and continuous advances of enormous significance to the communities in which they carry on their professional work Shall these general practitioners be denied an opportunity to acquire modern methods which will enable them to diagnose and attack disease with greater assurance of success? Is it not reasonable to assume that it is the duty of graduate schools to make provision for the immediate needs *of the* public and of practicing physicians who recognize and seek to remove their deficiencies, the while indulging the hope that one day this demand will be less insistent or may cease to exist altogether?

There is another and hopeful phase of the situation to be observed in the present-day recognition of the importance of correlating the teaching of the basal sciences with the more strictly practical branches of medicine Many of the difficulties and much of the confusion experienced by the undergraduate student will disappear, once he clearly appreciates the relationship that the various scientific subjects bear to one another and to clinical medicine.

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[1] Lyon L P Graduate Education in the Clinical Branches and the Minnesota Experiment J A M A **69** 1307 (Oct 20) 1917

[2] Munson F L The Needs of Medical Education as Revealed by the War J A M A **72** 1050 (April 12) 1919

The same precept applies with equal force to postgraduate teaching, and in order to accomplish a satisfactory correlation of the different branches it is necessary to have an organization based on a comprehensive knowledge of the practical interrelations of the branches represented in the curriculum. Such a scheme of coordination of the instruction is possible only with physicians who have given the subject of the arrangement of the graduate school curriculum careful and thorough study. Moreover, cooperation between the heads of the different departments and the deans of the various schools is essential to the end that appropriate teamwork may be effected. It is in line with the need of meeting this requirement of the graduate student that a most important reform is possible, but obviously it will demand time and serious thought to bring it about.

Doubtless, the further development of an adequate scheme of graduate medical education in this country will be in large part the result of the efforts of the American Medical Association. As in the case of undergraduate education so in that of graduate training, the recommendations of special committees of this body with the object of standardizing instruction, will be generally accepted. It may be reasonably assumed that candidates will be subjected to a process of elimination, but it is hoped and believed that this sifting will not exclude the medical graduates who compose the backbone of the profession and whose deficiencies are, in many cases at least, attributable to low standards of the medical schools from which they were graduated.

There should be brief, intensive courses, then, for the average general practitioner; they are an effective help in his work and at the same time meet in a measure at least the needs of the community. Indeed this educational movement is so largely associated with the vital interests of the public that further comment regarding the duties and responsibilities of graduate schools in the matter would seem to be unnecessary. Surely, graduate medical schools should not wait until the people in general are so organized and enlightened that they can adequately express their professional needs. For these brief group courses no official certificate should be granted although a statement issued by the dean setting forth that the candidate had taken certain polyclinic courses, with a mention of the duration of the period of study would be allowable.

THE SPECIALTIES

The world war revealed the scarcity of physicians who were qualified to render service along technical or highly specialized lines." While there was an unprecedented demand for physicians of the highest attainments during that period, the experiences gained served to emphasize the necessity for improvement in both undergraduate and graduate medical education so as to procure and maintain an adequate expert medical service.

It follows as a natural corollary from the foregoing statements that one of the chief functions of the graduate school is to provide an opportunity for the preparation of physicians for service requiring exceptional qualifications and the highest skill, as specialists, teachers and research workers. To those desiring to pursue the advanced courses, however, a strict psychologic rating should be applied and all who fail to show the proper mental aptitude should be rejected. These entrance examinations are to be conducted by a competent specialist in neurology or psychology in conjunction with the dean.

I feel strongly that the time has arrived when we must free ourselves, by degrees if need be, from the custom of including among polyclinic courses, strictly speaking, the recognized medical specialties. They should fall either into the higher courses or into those leading to degrees, or the purely personal ones with a view to attaining to greater technical and practical efficiency along special lines and to become impregnated with the environmental atmosphere of a given teacher. To requests for personal tuition either in general medicine or surgery or the specialties, graduate schools must ever give heed, but the instruction should be conducted quite independently of any or all group courses and no degrees should be granted.

The adoption of advanced courses to prepare men for the specialties in medicine would be a distinct and long step in advance and a commendable asset in the movement to eradicate incompetents. This object, the standardization of the specialties, will not be attained so long as one or more brief polyclinic courses give physicians the right to assume the role of a specialist. For example, modern operations are on the whole comparatively safe, but far greater credit would accrue to the medical profession if the so-called leading operations in all departments of medicine requiring surgical procedures were performed only by the thoroughly trained, skilled and experienced surgeon.

The organization and standardization of advanced courses necessitate an immediate division of internal medicine and general surgery into several subbranches or specialties. Further details with regard to these two subjects would be beside the scope and purpose of this article, although it may be added that each subdivision should be provided with a full-time head and that graduate schools require a large personnel of well trained and experienced teachers. The progress of the science and art of medicine has been doubtless retarded by lack of preparedness on the part of physicians who have been pursuing special limited fields of civilian practice. More rigid training after the proper scientific preparation and certification for specialists is a most pressing public need and should engage the attention of our newly organized graduate medical schools. Both entrance requirements and curriculums would naturally differ in different medical specialties but they must without exception be conducted under the higher scientific and practical standards.

METHODS OF TEACHING

It is in the graduate schools of this country that the cooperative or group method of studying disease which is to be commended must be properly rooted and developed. It is time that a satisfactory start be made in the higher courses leading to degrees, which should be a guarantee of exceptional attainments in preparation for the conduct of professional chairs or the practice of one of the recognized specialties or for public health work; indeed this should be undertaken as soon as proper facilities can be offered.

It is generally conceded that original research is to be encouraged by graduate rather than undergraduate schools; it can have no definite place in the curriculum of the latter because of two significant facts: first, lack of time to pursue original investigation successfully, and second, lack of qualifications to carry on such difficult and exacting work with promise of important and reliable results.

The custom of conducting group courses has its well-marked limitations. While it is feasible to give theoretical training (lectures, demonstrations and the li

classes of students, the practical work

up the bulk of the course should be in

by individual contact of the student

apparatus under supervisory instructio

ine a student assistantship affords an excellent opportunity to gain practical information, the same remark applies to the student of internal medicine The method of individual touch with apparatus and patients is indispensably necessary in the more advanced courses for which special degrees are offered It will be seen that an abundance of clinical material and laboratory equipment is a prime requisite for carrying on such training Its successful consummation, therefore demands a large corps of competent teachers, and the affiliation with universities of all available hospitals, clinics, laboratories and museums Such an affiliation of hospitals and clinics with universities, however, should be effected slowly and systematically Indeed the process should never be more rapid than is consistent with thorough organization and efficient, systematic teaching The length of degree courses should not be less than from two to three semester years

The chief primary aim and purpose of graduate schools being to provide highly skilled specialists, teachers and research workers so far as they accomplish these ends will they become a potent factor in the era of production and construction on which America has recently entered To promote a scheme such as outlined, however, an ample endowment fund is absolutely essential Not only are new hospitals and laboratories required, but also endowed chairs We are passing through a period in which 'drives' have become popular and surprisingly successful It has been authoritatively stated that the need of funds was never greater at our universities than at present, owing to plans looking to new developments in connection with the graduate medical schools and in other lines of endeavor Since time is the essence of such an undertaking, it is hoped that "drives" will be made in the immediate future by the alumni and friends of the great American universities which have failed to do so in the past It should be recollected in this connection that institutions which have received grants from the General Education Board have been those which have themselves contributed a certain amount I am decidedly of the opinion that once the public more especially the benevolently inclined portion thoroughly understands what is the goal of these schools and that the welfare of the community is first, financial aid can be obtained through private philanthropy and from the state as well

Much pertaining to both comprehensive planning and execution of the public demands in regard to medical service must obviously be left to the future Meanwhile all who are identified with the control and direction of graduate education should be intensely occupied with endeavors to meet the new and ever changing conditions of the times This will necessitate the institution of new policies and methods which must be given proper direction after the most thorough consideration of their wisdom As the work progresses there must also be maintained close intercourse between the policy forming management the deans and the faculties, if a real merit system of graduate medical education is to be expected

FUNCTIONS OF THE GRADUATE SCHOOL

To recapitulate the fully functioning graduate school should provide

1 Polyclinic courses preferably of from four to eight months' duration for those pursuing general practice, who are desirous of overcoming their unavoidable deficiencies

2 Advanced courses in the different departments of internal medicine surgery and in the medical specialties for which degrees are offered properly standardized and from two to three years duration with an adequate standard of acceptance and an examination at the close of each scholastic year

3 Personal courses under special arrangements with individual teachers quite independently of any class or group instruction

4 An abundance of material and laboratory space and equipment resulting in part from a gradual and careful affiliation of hospitals and clinics with universities, and a large corps of teachers with sharp division of duties and fixed responsibilities, including full-time professors as heads of departments in the advanced courses with proper emoluments of their services

5 A research bureau with separate organization to which the other departments defined above would naturally contribute candidates subject to certain acceptance standards

6 Large endowments to meet the conditions of the times, this is fundamental to all success The people—the benefactors—must be fully informed of the purpose and aims of this modern educational product, as an aid to the securing of private and corporate endowment

1605 Walnut Street

Idaho October Examination

Mr Paul Davis, director, Bureau of License Idaho Department of Law Enforcement reports the written examination held at Boise, Oct 7-9 1919 The examination covered 13 subjects and included 130 questions An average of 75 per cent was required to pass Twenty candidates were examined all of whom passed Six candidates were licensed by reciprocity The following colleges were represented

College	PASSED	Year Grad	Per Cent
George Washington University		(1915)	82 3
Chicago College of Medicine and Surgery		(1917)	83 2
Hahnemann Medical College and Hospital of Chicago		(1913)	86 3
Northwestern University	(1904) 85 8	(1907)	78
Rush Medical College		(1917)	81 2
University of Illinois		(1919)	85 3
State University of Iowa College of Medicine		(1903)	85 5
University of Kansas		(1917)	82 8
University of Maryland	(1915) 83 7	(1918)	83 2
Boston University		(1905)	89 7
Marion Sims College of Medicine		(1896)	88 6
St Louis University		(1906)	87
John A Creighton Medical College		(1911)	80
University of Pennsylvania	(1917) 81 8	(1919)	80 5
Hahnemann Medical College and Hosp of Philadelphia		(1907)	89 4
University of Tennessee		(1919)	87 4
McGill University		(1919)	83 3

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
Denver College of Medicine		(1894)	Utah
University of Colorado		(1917)	Colorado
Chicago College of Medicine and Surgery		(1910)	Utah
Rush Medical College		(1910)	Utah
St Louis University		(1905)	Utah
Jefferson Medical College		(1897)	Washington

Montana October Examination

Dr S A Cooney, secretary of the Montana State Board of Medical Examiners reports the written examination held at Helena Oct 7-9 1919 The examination covered 10 subjects and included 50 questions An average of 75 per cent was required to pass Of the 23 candidates examined 14 passed and 9 failed The following colleges were represented

College	PASSED	Year Grad	Per Cent
Chicago Coll of Med and Surgery	(1915) 76 1	(1917)	81 8
Northwestern University		(1909)	80 9
Rush Medical College	(1915) 82 8	(1919) 79 7 83 3	*85 4
State University of Iowa College of Medicine		(1897)	84
Univ of Minnesota Coll of Homeo Med and Surg		(1897)	80 5
University of Minnesota Coll of Med and Surg		(1907)	78 9
Long Island College Hospital		(1914)	82
University of Oregon		(1917)	76 9
Willamette University		(1913)	75 2
Jefferson Medical College		(1910)	76
	FAILED		
Loyola University	(1916) 56 4	(1917)	62 6
Barnes Medical College		(1909)	47
Kansas City Hahnemann Medical College		(1905)	59 5
St Louis College of Physicians and Surgeons		(1909)	70
St Louis University		(191)	65 9
John A Creighton Medical College		(1917)	66 9
University of Oregon		(1919)	68 7
Memphis Hospital Medical College		(1911)	62 7

* Received certificate for four years work August 1919

Social Medicine and Medical Economics

THE DISPENSARY SITUATION IN NEW YORK CITY

Summary and Recommendations

By the Public Health Committee of the New York Academy of Medicine*

The Public Health Committee of the Academy of Medicine was organized May 1 1911 Its main purposes have been

1 To maintain a bureau for the collection of facts in regard to public health sanitation and hygiene

2 To endeavor to establish an active cooperation with all public health activities in the city

3 To keep the medical profession advised of current public health condition

4 To render to the public authorities and to the community at large an authoritative medical opinion on public health matter

5 To undertake and suggest special researches looking to the solution of vital public health problem

6 To make comparative studies of methods and results of public health activities in other cities both in this country and abroad

7 To utilize facts obtained by the study of public health and hospital conditions for practical application in the preparation of the annual municipal budget

8 To assist actively the various departments of the city government which relate to public health and hospitals in the preparation of their tentative budgets

9 To study the hospital and dispensary situation in the city with a view of making plans for their future development and in order to further the efforts for raising the standards of efficiency

From the time of its organization the committee has carried out it program faithfully as demonstrated in the annual summaries of its work The sphere of action and influence of the committee has been widened from year to year and it now occupies an important place in the public health affairs of New York Two of the studies of the committee have already been published in The Journal[1]

I CLINIC FACILITIES IN NEW YORK

According to the report of the state board of charities there are 153 dispensaries in New York City In this number are included twenty-one tuberculosis, eight dental, ten eye and three rabies clinics of the department of health, and six school dental clinics maintained by the Children's Aid Society Of the 105 dispensaries outside of the health department and school dental clinics there are sixty-five outpatient departments of hospitals, thirty-four detached dispensaries and six college dispensaries In addition, the health department maintains twelve venereal disease clinics (all but two advisory only), three occupational clinics and sixty baby health stations Several private agencies maintain an additional number of milk stations

The average number of persons treated annually in the dispensaries of the city has been one and a quarter million for the last five years and the average number of treatments given is about four million making an average of over three treatments per patient

Over 2 000 physicians in New York City are giving their services to dispensaries and in the vast majority of instances their services are not compensated Approximately 69 per cent of the physicians are associated with outpatient departments of hospitals, and the remainder, or about 31 per cent, work in the independent dispensaries The dispensaries are open weekly for about 8 000 clinic hours Most of the dispensaries are open during morning and early afternoon hours The number of dispensaries open in the late afternoon hours is very small and the total number of evening hours during which the clinics function is only 213½, or a little over 2 5 per cent of the total number of clinic hours per week

There is evidently a sufficiency of dispensary facilities in New York City, and there will be no need for additional dispensaries for some years to come if the existing facilities can be utilized to a larger extent and if, with a system of paying salaries to physicians the dispensary hours can be arranged to meet in a larger degree the demand of those who are employed and of the schoolchildren

Of late the dispensaries have taken on functions along the lines of preventive medicine and public health, but this development is still in its infancy The great opportunities of the dispensaries in the fields of both curative and preventive medicine have not as yet been fully grasped by the institutions, nor have their social responsibilities been clearly realized

II THE DISPENSARY LAW

According to the state law of New York, all persons applying for advice or treatment at a dispensary must be questioned as to their ability to pay a physician and only those who are in the opinion of the registrar unable to pay physicians or dentists shall be accorded treatment Exceptions to the rule are permitted in emergency cases and cases of communicable disease (this refers chiefly to tuberculosis and venereal diseases) and in the case of persons applying at dispensaries connected with medical schools which may be selected for use in clinical instruction It is a misdemeanor to obtain medical or surgical treatment on false representation The questioning concerning the financial status of dispensary applicants required by law is more or less perfunctorily performed, and although the law has been on the statute books for twenty years, not a single case has been brought to court

Studies made at various times in several cities including New York show that the amount of imposition on the practically free services of dispensaries is not flagrant and does not constitute an important factor in the dispensary problem The study conducted by a special committee of the New York County Medical Society in 1912 led to the conclusion that 10 per cent of the patients seemed able to pay for medical treatment under ordinary circumstances but the margin over and above fixed expenditures seemed in most cases so slight that in illness demanding continued treatment or the services of a specialist to pay a physician would mean for them serious deprivation or the incurring of debt from which afterward it would be difficult to escape

A study of 1 000 cases at the Presbyterian Hospital Dispensary in Philadelphia showed that in 2 per cent of the cases the acceptance of free care offered by the hospital amounted to abuse[3]

The Illinois State Health Insurance Commission reported in May 1919 that according to its study 4 5 per cent of the dispensary patients were recipients of medical charity which their economic status did not justify[4]

Similar studies at the Boston Dispensary and at the Washington University Dispensary at St Louis led to the conclusion that 2 per cent of the patients were taking undue advantage of the free services of the dispensary physician[5]

Our own study based on first hand information obtained from the patients who were visited in their homes corroborates the findings of the other investigations We found that 22 per cent of the patients were palpably taking undue advantage of the dispensaries, that 79.4 per cent were justified in the use of the dispensaries because of low economic status, and the rest because they sought the services of specialists or the use of equipment and apparatus which could not be obtained anywhere except in a dispensary at a price which they could afford to pay.

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* The members of the committee are E H Lewinski Corwin Ph D executive secretary Dr Charles Loomis Dana chairman Dr James Alexander Miller secretary and Dr John S Billings Nathan E Brill Robert J Carlisle James B Clemens Haven Emerson Levi Fox Frissell Arpad G Gerster S S Goldwater John A Hartwell Ward A Holden L Emmett Holt Otto V Huffman Walter B James Walter L Niles Bernard Sachs Thomas W Salmon Frederic F Sondern M Allen Starr W Gilman Thompson Philip Van Ingen Karl M Vogel George B Wallace Carnus H Watson and Herbert B Wilcox

[1] Quarantine in the Maritime Cities of the United States J A M A 60 194 (Jan 18) 191 Report on Postmortem Examinations in the United States ibid 60 1784 (June 7) 191

[2] New York State J Med 13 0 (Jan) 191

[3] Jobe and Hostetter A Social Survey of Dispensary Patients in Philadelphia Med Hosp November 191 pp 3-1 5 6

[4] Report of Health Insurance Commission of the State May 1 1919 pp 93 3

[5] Davis and Warner Dispensaries New York 1918

The bulk of dispensary work today is done in departments devoted to the treatment of special conditions. Not more than 20 per cent of treatment is given in the department of internal medicine; the remainder is divided among pediatrics, surgery and specialties. The vast majority of patients seek the advice of specialists in the dispensary because they cannot meet the fees prevailing in private practice.

In view of that condition, it may be stated that the dispensaries have ceased to be institutions for the destitute only, and have come to occupy a very prominent place in the treatment of disease among the wage earners of the community.

III. DISPENSARY POLICY AND EXECUTIVE DIRECTION

There exists no standard method of dispensary organization, either from the administrative or medical point of view. The dispensary has too often been treated as a Cinderella in the hospital household—neither sufficient funds nor sufficient thought have been given to its organization and work.

The problems encountered in dispensary administration are probably more complex and difficult than are the problems arising in the management of a hospital; yet the majority of institutions lack a definite policy with regard to dispensary work, and the administrative supervision is in too many institutions purely perfunctory. Likewise, with the exception of independent dispensaries, there seldom is an executive officer of training and ability attached to the dispensary whose duty it is to give undivided attention to the study of its problems and the development of adequate administrative procedure.

There is a need in most of the institutions of a clearly defined policy and responsibility to be formulated by the board of trustees and to be supervised by a joint committee representing the board of trustees, as well as the medical board. Provision should also be made, at least in the large institutions, for a full-time executive, who will carry out the policies of the board of trustees and devote his undivided thought and attention to the administrative problems of the dispensary. Many of the existing administrative deficiencies would be obviated by the existence of well defined policies and by the fixing of responsibility for their enforcement on specially designated full-time executives.

IV. FEES

The prevailing charge for admission, drugs, dressings, apparatus and so on varies from institution to institution. No effort has been made to standardize charges. They are invariably very low, although in some institutions the registration fee is as high as one dollar. Municipal hospitals have thus far refrained from charging any fees in their outpatient departments, although payments are accepted in such hospitals for the maintenance of ward patients. During the last year the charges in many institutions have been slightly increased. The increase in charges leads at times to a falling off of the number of patients who seek treatment in institutions where the charges are lower. There is an evident need of an equalization policy in the matter of charges for treatment as well as for medicine, dressings, etc., and an attempt along these lines should be made jointly by all the institutions, including the municipal.

At least three considerations must be borne in mind when the problem of fixing dispensary charges is undertaken. First, all the institutions are in need of additional income for the purpose of improving the services; second, the majority of the wage earners are able to pay part of the cost for skilled medical service, and third, there exists a class of patients, chronic invalids and the unemployed, who will be deprived of treatment altogether if the admission fee is demanded in every case. The fees should likewise be low or remitted to patients in tuberculosis and other similar clinics to which the patients are required to come for sanitary supervision. It is therefore necessary to adopt a system of carefully graded fees with a maximum not to exceed 50 cents and to make that system uniform in the dispensaries throughout the city. The wage earners in a more or less steady employment could pay a fee of 50 cents per visit without hardship. Moreover, considering the fact that the majority of patients come to the dispensary to seek the advice of specialists, the suggested increased fees would not be considered prohibitory to most of them. They are at present compelled to resort to the practically free services of the dispensary because they cannot meet the customary charges of specialists. The adoption of a 50 cent maximum fee would materially increase the present dispensary income and would aid toward making possible the necessary improvements in dispensary service. It would help the institutions to pay salaries to physicians and to employ larger clerical, nursing and social service staffs to carry on more adequately the manifold functions of the dispensary and to meet the responsibilities toward the patients and the community. Even small salaries of from $300 to $600 yearly are often sufficient to keep good young physicians interested in their positions, and to lessen the medical "turn over" in the clinics.

The institutions which are poorly equipped, and which would be unable to render a superior grade of service, would lose many of their patients who, on paying a higher fee, would be more discriminating, and in this way the inferior institutions would be gradually eliminated.

V. REDUCTION IN WAITING TIME

The two things that first need amelioration in clinic procedure are the reduction in the waiting time before admission and the method of assignment of patients to clinics. In many instances patients are made to wait unduly long periods of time, which is a hardship for most of them if they are employed or, as in the case of mothers, if they have domestic duties. It is believed that this could be obviated to a large extent by the system of appointments as is customary in private practice. That such a system can be made practical has been demonstrated by the American Red Cross Clinic for Children at LaHavre and at the Mayo Clinic at Rochester, Minn.[6]

Because the dispensary plant is in many instances used only for several hours during the day, there is a great overcrowding of patients at most of the institutions. More extended use of the dispensary facilities would obviate the existing overcrowding in many instances and would allow for better individual attention than is at present accorded the average patient. When the extension of the use of the plant is impracticable, the principle of limitation of numbers should be applied, that is, no more patients should be admitted to the dispensary than the facilities of the institution in personnel and equipment would warrant.

The present practice of the lay registrars assigning patients to the several departments of the dispensary results in numerous transfers from one clinic to another, with the concomitant loss of time and also in the condition that many clinics treat cases which do not belong to them.

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[6] The Red Cross plan is described by Dr. Edwards A. Park, Mod. Hosp. 13: 101 (Aug.) 1919.

VI THE DIAGNOSTIC CLINIC

To remedy this, it is suggested that each dispensary should have a diagnostic division, and patients with systemic diseases or suffering from conditions not easily ascertainable should receive the benefit of an examination by a group of physicians representing the several departments of the dispensary and be assigned to the treatment departments after a preliminary examination has been made. Conditions in which the diagnosis is obvious, such as simple wounds or fractures, or when the disease or complaint is trivial and transient, such as a "common cold," could be disposed of without assignment to the diagnostic clinic.

Patients in need of a general examination should be assigned to the diagnostic division and subsequently sent for treatment to other departments. The physicians in the several departments would serve in the diagnostic division on a rotation basis. In this way the patients would receive the benefit that accrues from medical team work and the physicians would have a much better opportunity for a complete study of patients than they do under the present form of organization. Consultants of broad experience and of recognized ability should be associated with and should actively participate in the work of both the diagnostic and the therapeutic departments.

VII EDUCATIONAL OPPORTUNITIES

The waiting period of the patients has not been utilized in any of our dispensaries for educational purposes. Even if a system of appointments is introduced it will not entirely obviate waiting. This period could be well utilized if moving pictures, dealing with certain health aspects, could be shown, large posters placed in the dispensary rooms, so that they could be read from the distance or other methods of health education employed. Dietetic demonstrations would be of great value in this connection. The dispensary might also be used outside clinic hours for lectures, classes in dietetics, corrective gymnastics, teaching of hygiene and similar activities, in other words the dispensary should strive to become the educational center of the neighborhood.

VIII ROOM ARRANGEMENT

It is important that in many of the institutions better arrangement of the facilities should be made so that the clinic rooms would be well lighted and ventilated and that the laboratories would be housed in readily accessible locations and that clinics closely related in function should be in juxtaposition. The arrangement of the waiting rooms in large clinics could also be improved and when feasible the exit from the building should be separated from the entrance. The social service department should likewise be made easily accessible and located in immediate proximity to the diagnostic department which would facilitate the joint work of the two departments.

IX EQUIPMENT

In order to make the services in dispensaries as attractive as possible for physicians and in order that the patients may derive the greatest benefit from medical skill, it is imperative that the dispensaries be equipped with all the modern facilities for diagnosis and treatment of disease. Many institutions have meager laboratory and roentgen ray facilities. The hospital laboratories on which many of the outpatient departments have to depend are too overcrowded with work for hospital patients to assume all the burden that proper medical work in the dispensaries would impose on them. In addition to the lack of adequate laboratory equipment the dispensaries are seldom equipped with therapeutic workshops and with the facilities for hydrotherapy, mechanotherapy, thermotherapy and electrotherapy.

X REMUNERATION OF DISPENSARY PHYSICIANS

Even if all the necessary physical facilities were provided in the dispensary, it would not attract physicians for continued and sustained application if there were no other benefits derived from dispensary practice. Medical ethics restrains physicians from deflecting patients from the dispensary to their private offices and particularly with the present high cost of living it is very difficult for many to devote a great deal of time to dispensary practice which with a few exceptions is not compensated. Remuneration, even though nominal, affords a stimulus to more conscientious performance of work and makes possible a better discipline in the institutions. But what is even more important for the efficiency of the service is a medical organization correlating the dispensary service with that of the hospital such as is already in vogue in the best institutions and should be adopted by others. The essential features of a correlated dispensary and hospital service are herewith suggested.

XI CORRELATION OF DISPENSARY AND HOSPITAL SERVICE

The medical organization of outpatient departments which are connected with hospitals should be divided into two main branches corresponding to those of the hospital, namely, the medical and the surgical. The medical division of the hospital and that of the dispensary should be under one director. Likewise the two surgical departments should have common direction. The specialties in each branch should be differentiated in accordance with the best interests of the medical and administrative organization of each institution. The outpatient service should be graded. The appointment to the lowest grade in the outpatient department should be made on a probationary basis of three or six months and after a successful trial the probationer should on the recommendation of the chief of clinic and with the approval of the board of trustees be appointed a member of the dispensary staff in the lowest grade. On completion of a period of satisfactory service he should be promoted to a higher grade and whenever the conditions warrant should be made a member of the lowest grade of the visiting staff of the hospital. A rotating service for the junior members of the visiting staff of the hospital allowing a combined service in the dispensary and in the hospital is beneficial to hospital and dispensary alike.

Whenever such an arrangement exists it affords physicians a stimulus to enter dispensary service, it adds to the experience of physicians many of whom on account of the limited facilities of hospitals do not get the benefit of hospital association except during the one or two years of internship and it gives to the hospitals a broader opportunity of choice of the visiting staff. A universal adoption of such a plan would be welcomed by the profession and it would obviate to some degree perhaps the necessity for paying salaries to dispensary physicians. The opportunity for promotion to hospital rank counts for more than a salary reward for a routine day to day drudgery without hope for promotion. Such a plan would also dovetail with a medical school organization.

In detached or independent dispensaries where such a plan of organization could not be effected arrangements with medical schools for organizing graduate instruction could perhaps be made in order that the whole field of clinic work of this city should be permeated with the spirit of research and teaching and in order that all existing facilities should be put to the most useful purpose.

The study of medical records has revealed the fact that the special institutions devoted to the treatment of particular conditions are almost invariably superior in their work to the corresponding branches of the general d[illegible]aries [illegible] seem important therefore that in ma[illegible] the [illegible]opment of New York as a great me center the facilities and clinical material of the special institutions should be correlated and utilized to the fullest extent.

XII. MEDICAL RECORDS

Adequate medical records prepared in a certain standard way and legibly written are one of the prime essentials of conscientious performance of work and of a scientific utilization of the clinic material. Under existing conditions, in which the physicians in the majority of instances are required to write histories in the rush of clinic work, and where there is no supervision over the keeping of histories, and no scientific or administrative stimulus for keeping them, the medical histories in many instances are little more than worthless. Often the essential findings of the physical examination and the ancillary laboratory tests or the character and method of treatment, are not recorded.

The analysis of the thousands of medical records obtained from a large number of institutions, although inadequate as an exact portrayal of medical work, indicates, however, that in many instances dispensary work is of a slip-shod character.

General physical examinations were found to be recorded in less than one fifth of all the cases examined. For certain conditions, such a procedure is probably unnecessary. In many others, however, the failure to make an adequate general physical examination is a serious omission and indicates to what extent the dispensaries could be improved if their responsibilities as agencies for the prevention of incipient disease and the discovery of remedial defects were fully realized. Then, again, the fact that the number of diagnoses recorded on the medical histories exceeds the number of physical or local examinations and the number of laboratory tests would indicate that the diagnoses are often forced without sufficient warrant. Even in such cases diagnosed as nephritis, for instance, records indicate that urinalysis was made in only 66.7 per cent. of instances. Among the cases of syphilis studied, in only 50 per cent. was an indication found that the patient had been given proper treatment.

For the efficient functioning of the clinics, it is desirable that clinic staff conferences should be held regularly and cases reviewed. The members of the staff should be urged to study intensively certain series of records and make analyses of them for presentation, discussion and publication.

With an administrative organization as outlined in this series of recommendations the keeping of adequate histories is quite feasible. In order that the histories may be made readily available for all purposes for which they may serve and in order that they may be kept in a uniform way, it is essential for a dispensary to maintain a central cross index filing system such as has been successfully maintained at the Presbyterian Hospital of New York or at the Massachusetts General Hospital or at the Mayo Clinic, for example. The daily routine procedure in dispensaries should provide that at the close of each clinic session the clinic secretary should turn in the day's records to the filing clerk who, on examination, files them in accordance with an established system if the records contain all the information called for by the standard adopted. If the records are incomplete they should be returned to the physician for the supplementary information before they are placed on file. Before the clinic session begins, the records pertaining to patients who are expected to return on that particular day would be obtained by the clinic secretary from the filing clerk. Additional items indicating the patient's progress would be added, and the records again returned to the central file.

Although theoretically the central file is highly to be recommended for its manifold advantages, it has certain practical drawbacks. First of all, it is expensive, as it requires a considerable staff of trained and experienced file clerks with a thorough understanding of medical terms. Its proper functioning is also dependent on the existence of clinic secretaries who would cooperate with the filing department in seeing that all the details are entered and that the department is notified daily in time to prepare histories for each clinic session.

Furthermore, the frequency of error in misfiling a record increases with the number of records handled, and accordingly the chances of a temporary loss of record are greater in the central files than they are in the individual files. Likewise, the question of available space for a central file must be considered before its adoption. A central file usually occupies a considerable amount of contiguous room space, while the decentralized file is easily distributed among the several clinic rooms.

Finally, the adaptability of a central file to the requirements of certain clinics, such as tuberculosis and venereal disease which are called on to make periodic summaries of their work, must also be considered.

XIII. CLINIC SECRETARIES

Another important factor in increasing the efficiency of the clinic is the dispatch with which patients are prepared for examination. There are few institutions in this city at which clinic secretaries, as they are called, are employed. Wherever the experiment has been tried, whether with paid or volunteer workers, it has proved to be of great value. It is very important that clinic secretaries be generally employed as adjuncts in the discharge of clinical procedure. Many volunteers could be secured for the service from among those in the schools for social service for whom such an experience would be of invaluable assistance in their future careers. A certain number of paid secretaries will, under any conditions, be necessary in the clinic in order to train volunteers and facilitate the work of the physicians, and to spare the patients a great deal of waste of time and effort and also their occasional disappointment and discouragement.

XIV. FOLLOW-UP SERVICE

One of the tests of a dispensary's efficiency is the hold it exercises over its patients, for unless patients return for treatment until discharged, a great deal of the effort and money expended has been lost. As matters stand the return visits in some of the departments of the clinics are very few. In certain departments, like tuberculosis, venereal disease and children's, efforts are being made to bring the patient back through the follow-up system, which in the majority of institutions consists in notifying patients who fail to come on an appointed day that they should return to the clinic. Only in certain institutions are the patients visited by the agents of the dispensary and urged to come back. There are many reasons for the failure of the patients to return. They sometimes get discouraged; frequently, again, the symptoms which in the first instance drove them to the dispensary disappear, and it is not evident to them that they should continue treatment. In this study it has been shown that the majority of the patients gave "pain" as the chief symptom which prompted them to seek medical advice. It is essential for an efficient clinic to have an adequate number of workers who would be able to impress the patients with the importance of continuing treatment, even when the distressing or annoying symptoms disappear.

The number of persons with syphilis or gonorrhea who remain under treatment until discharged by the clinic is almost negligible, and no systematic efforts have been attempted to examine the families of the infected patients. In this respect the experience of tuberculosis clinics, where efforts in that direction have become a part of the routine of procedure, may be pointed out as a possibility for larger prophylactic opportunities of the venereal disease clinics. It is imperative that the venereal disease clinics have at their command larger physical facilities, as well as more clerical, nursing and social service assistance, in order that they may take a proper part in the campaign for the eradication of venereal disease.

XV. THE NURSING ORGANIZATION

The nursing personnel of dispensaries is generally inadequate. The nurses are chiefly found in the children's, gynecologic, surgical and tuberculosis departments. Other departments are handicapped by lack of nursing assistance. Moreover, the nurses are frequently called on to do other than purely nursing duties, and their assignment to the dispensary is often contingent on the needs of the hospital. The practice established in certain institutions in which a part of the course in the training school for nurses is devoted to dispensary work, should be generally adopted and arrangements made in such a way that each of the pupil nurses should have several months experience in the dispensary which would be of great value to her. The pupil nurses should remain under the direction of a head nurse designated from the training school for the direction and instruction of the pupils. If such an arrangement could be effected in all the outpatient departments connected with hospitals maintaining a training school, the nursing service in dispensaries could be made much more adequate and economical than it is now, as the number of graduate nurses should be reduced to a minimum of one in some of the dispensaries.

XVI. THE SOCIAL SERVICE DEPARTMENT

The social service department could best do its work if it were in close cooperation with the admitting and diagnostic departments of the institution. The patient's first contact should be either with the social service department, where on rapid questioning, certain facts required by law would be ascertained about his social history before he proceeds to the diagnostic or other departments of the institution, or this function could be performed by a proper registrar who, when directing the patient to the diagnostic clinic, attaches to his history sheet a slip to be returned by the physician with a check mark indicating whether or not the services of the social service department are required in the case. Such a routine procedure would automatically call the physician's attention to the availability of social service. Likewise a method should be worked out whereby reports on cases that are referred by physicians would automatically be sent to them as soon as available.

Because of the underutilization of the dispensaries by certain racial groups in our population as a result of their ill adaptation to the new environment, it is important that the social service department learn to meet the racial point of view of the patients, as well as to have some one who would obtain when necessary the desired information in the language of at least the major foreign group using the dispensary.

The social service workers are often called on to perform functions which are not within the range of activities which should properly belong to them. Because in New York the hospital social workers are almost invariably nurses, they are in some instances devoting a great deal of time to nursing work. This is particularly true of the pediatric and tuberculosis clinics. Likewise while visiting patients in their homes the social service workers undertake at times what is tantamount to public health nursing. Social service workers need not be nurses, and whenever patients require public health nursing arrangements for it should be made by the social service department with the Visiting Nurses Association or the department of health just in the same manner as other agencies are called on when the nature and exigencies of a case call for a special service.

There is a need of a standard or uniform social service nomenclature to designate certain conditions or procedures. The terms used at the present time are often vague and do not convey the same meaning to all who consult or use the records. The records of the social service department should be uniform and contain a certain amount of indispensable information. Digests of them should be filed with the medical records. The original full records might then be kept in the social service department.

The social service department has become recognized as an important part of the dispensary and hospital organization, and should be administratively incorporated as an integral part of the institution. It should be responsible before the board of trustees just as the other departments are, and all funds that are collected for its maintenance, if there be any special need for soliciting funds for any special department of an institution, should be placed in the treasury of the institution and paid out to the workers in the same way as salaries in other departments. There is an advantage, however, in having advisory committees of interested persons to discuss cases and to bring all the outside points of view and facilities available to assist in the work. On such committees, however, there should be representatives of the boards of trustees, the administrative heads such as the superintendent, the heads of the training school for nurses, and also a representation from the several departments of the medical organization.

The work of medical social service has as yet not reached a plane where it can be said to be standardized in its aims and methods. It is still in a formative state. There is need for a concentration of effort on the part of all those interested to secure a crystallization of function and procedure.

A central clearing house for social work might be attempted in order to standardize procedure, to make comparative studies of the work in the several institutions of the city, and to minimize the waste of money and effort by dividing the city into sections, so that workers from one institution would not need to visit patients in distant parts of the city, but could "clear" through such a central office. Such an arrangement should be rendered more feasible if standard methods and standard record forms were used.

The suggested central clearing office, with its accumulated wealth of material and experience, would also be in a position to formulate plans for instruction to be given to those who desire to enter the field of social service.

XVII. DISTRICTING THE CITY FOR CLINIC PURPOSES

In order that the dispensaries may become what it is possible for them to be, namely, important medical public health and social centers in the community, in addition to a reform of the present point of view and of the present organization there is a need of a better public appreciation of the scope and function of the dispensary and of a regional division of the city with regard to dispensary service.

The first could be accomplished through proper publicity on the part of the dispensaries, and by reports more informing than those published by most of the institutions. In reports the work could be presented and analyzed in an interesting and instructive way, and the costs per patient or per attendance figured in accordance with an accurate and uniformly applied system.

The districting of the city for dispensary purposes may be difficult because of the uneven distribution of the institutions and because of the needs of teaching clinics which do not desire to be restricted. In addition, there are a number of special institutions which cannot easily be included in an plan for the division of territory. Likewise denominational institutions might find it difficult to join in a [illegible]ment

The advantages which would, however, accrue from a regional distribution of responsibility make it desirable to try such an arrangement. At first perhaps certain departments could organize their work on a district basis following the successful example of cooperation on the part of the tuberculosis clinics. The pediatric, venereal disease, obstetric, social service and preventive medicine departments might find it most advantageous to adopt the district division of the field. Other departments might follow later if these experiments should prove satisfactory.

The successful experience of the Association of Tuberculosis Clinics in raising the standard of equipment and procedure is worth while considering particularly in connection with the venereal disease clinics, in which the variations in standards and records are so great at present as to render comparisons of their work of limited value. With a pooling of interests and a uniform system of reporting and of scoring great improvement could be expected.

Of all the departments of general dispensaries the tuberculosis clinics, although far from ideal, are undoubtedly the most efficient. It is true that they differ from other branches of the dispensary in that their primary function is education, supervision and the securing of a change in environment, while in most of the other departments the primary object is treatment; but similar cooperative arrangements could be established in other branches.

The Associated Out-Patient Clinics of the City of New York is the logical body to take the initiative in such a plan and to provide leadership to bring about needed reform in the dispensary practice and organization of this city.

Medicolegal

Validity of Law Taking Away Right to Issue Certain Prescriptions

(State v. Emonds (Wash.) 187 Pac. R. 584)

The Supreme Court of Washington, in affirming a judgment of conviction of the defendant of the crime of issuing a prescription for intoxicating liquor after he had been twice convicted of unlawfully issuing such prescriptions, holds constitutional Section 8 of initiative measure No. 3, Laws of 1915, which, among other things, provides that it shall be unlawful for a physician, after he has been convicted a second time of a violation of the provisions of the act, thereafter to write any prescription for the furnishing, delivery or sale of intoxicating liquor. The defendant contended that the legislative power of the state, whether by initiative measure or an act passed by the legislature, could not deprive a regularly licensed physician of the right or privilege of prescribing intoxicating liquor as a medicine if he believed the patient's condition required it, though it was admitted that for such offenses as that with which the defendant was here charged it would have been proper to deprive him of the right to practice medicine entirely. But the court says that no constitutional provision was called to its attention which it was contended that the law here assailed violated, and no authority was presented holding that the court may declare a legislative act invalid when it does not offend against some constitutional provision. The limitations on the legislative power must be found, if at all, in constitutional enactments, and not in the judgment or discretion of the courts. The law complained of was a valid exercise of legislative power. Nor was there any merit in the contention that, since the statute made it unlawful for a physician to issue a prescription for intoxicating liquor after having been twice convicted of unlawfully issuing such prescriptions, it was error to permit proof of more than that number. The state was not required to cease the introduction of proof when it had offered sufficient evidence to carry the case to the jury and sustain a conviction.

Excluding Children from School for Trachoma

(Martin v. Craig et al. (N. D.) 173 N. W. R. 787)

The Supreme Court of North Dakota, in affirming an order of the district court of La Moure County quashing an alternative writ of mandamus that was issued on the petition of the plaintiff for a peremptory writ to compel the defendants to admit to school certain children, says that the defendants justified their refusal on the ground that one of the children had been found by a reputable physician and by a qualified representative of the federal health service to be afflicted with trachoma, and the other to present a case in which trachoma was suspected. It appeared that during the past few years the disease of trachoma had been present in La Moure County. The school nurse directed the attention of the county health authorities to a number of cases in which schoolchildren appeared to be affected with granulations of the eyelids, and when some of them were examined by the superintendent of the county board of health, he diagnosed the cases as trachoma. When examined by other physicians, however, and even by representatives of the state public health laboratory, the finding was negative as to trachoma. In some of the cases that had been pronounced trachoma by the superintendent of the county board of health and not trachoma by the representatives of the public health laboratory, the patients were sent to the government hospital at Pikeville, Ky., for treatment, and the diagnosis was trachoma. There being a number of persons afflicted with this or similar eye trouble, representations were made by the governor of the state to the federal Public Health Service, which resulted in a survey being made by a representative of the latter service, who reported that he found in La Moure County 120 positive and 350 suspicious cases of trachoma. As a result of this survey a government hospital was established at La Moure in which patients afflicted might be given the advantage of scientific treatment without charge. Moreover, to prevent the spread of the disease and to secure proper treatment for those affected, the county board of health promulgated an order forbidding admission to school of children who, on examination, were found to be or were suspected of being afflicted, unless they were at the time under treatment for the disease.

In this case the plaintiff produced two physicians who presented what are generally considered to be first class professional credentials qualifying them to give expert testimony. They had also had ample opportunity to examine the patients and to diagnose the cases. In fact, the children had been patients of one of the physicians. These physicians testified that the children were not afflicted with trachoma but with folliculosis. One of them also testified that it was injurious to the eye to treat it for trachoma when trachoma was not present, but a careful reading of his testimony disclosed that the injury resulted from a species of treatment that was likely to be resorted to only when the disease was clearly present and when the necessity for radical treatment was indicated. When qualified physicians disagree on the diagnosis of a diseased condition of particular persons, the health authorities and a school board whose duty it is to execute the orders of the board of health are justified in acting on the opinion of their own competent experts.

The order of exclusion in this case could not be said to be unreasonable. It excluded only those whose cases were positive and suspected who were not at the time under treatment. The seriousness of the disease and its communicable character afforded ample foundation for such an order, and even conceding that it might be doubted in the present case whether the children in question were affected, the doubt was one that must be resolved in favor of the authorities charged with the serious responsibility of preventing the spread of the disease. This was a case in which mandamus would not issue as a matter of right, but wherein it would issue only in the exercise of a judicial discretion, and this discretion should not be exercised in a way that might result in needlessly exposing healthy children to a disease as serious as trachoma.

The advantages which would, however accrue from a regional distribution of responsibility make it desirable to try such an arrangement. At first perhaps certain departments could organize their work on a district basis following the successful example of cooperation on the part of the tuberculosis clinics. The pediatric venereal disease obstetric social service and preventive medicine departments might find it most advantageous to adopt the district division of the field. Other departments might follow later if these experiments should prove satisfactory.

The successful experience of the Association of Tuberculosis Clinics in raising the standard of equipment and procedure is worth while considering particularly in connection with the venereal disease clinics in which the variations in standards and records are so great at present as to render comparisons of their work of limited value. With a pooling of interests and a uniform system of reporting and of scoring great improvement could be expected.

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(Martin Craig et al (N D) 17 N W R 78)

The Supreme Court of North Dakota in affirming an order of the district court of La Moure County quashing an alternative writ of mandamus that was issued on the petition of the plaintiff for a peremptory writ to compel the defendants to admit to school certain children says that the defendants justified their refusal on the ground that one of the children had been found by a reputable physician and by a qualified representative of the federal health service to be afflicted with trachoma and the other to present a case in which trachoma was suspected. It appeared that during the past few years the disease of trachoma had been present in La Moure County. The school nurse directed the attention of the county health authorities to a number of cases in which schoolchildren appeared to be affected with granulations of the eyelids, and, when some of them were examined by the superintendent of the county board of health, he diagnosed the cases as trachoma. When examined by other physicians however and even by representatives of the state public health laboratory the finding was negative as to trachoma. In some of the cases that had been pronounced trachoma by the superintendent of the county board of health, and not trachoma by the representatives of the public health laboratory the patients were sent to the government hospital at Pikeville Ky for treatment and the diagnosis was trachoma. There being a number of persons afflicted with this or similar eye trouble representations were made by the governor of the state to the federal Public Health Service, which resulted in a survey being made by a representative of the latter service who reported that he found in La Moure County 120 positive and 350 suspicious cases of trachoma. As a result of this survey a government hospital was established at La Moure, in which patients afflicted might be given the advantage of scientific treatment without charge. Moreover to prevent the spread of the disease and to secure proper treatment for those affected the county board of health promulgated an order forbidding admission to school of children who on examination were found to be or were suspected of being afflicted unless they were at the time under treatment for the disease.

In this case the plaintiff produced two physicians who presented what are generally considered to be first-class professional credentials qualifying them to give expert testimony. They had also had ample opportunity to examine the patients and to diagnose the cases. In fact the children had been patients of one of the physicians. These physicians testified that the children were not afflicted with trachoma but with folliculosis. One of them also testified that it was injurious to the eye to treat it for trachoma when trachoma was not present but a careful reading of his testimony disclosed that the injury resulted from a species of treatment that was likely to be resorted to only when the disease was clearly present and when the necessity for radical treatment was indicated. When qualified physicians disagree on the diagnosis of a diseased condition of particular persons the health authorities and a school board whose duty it is to execute the orders of the board of health are justified in acting on the opinion of their own competent experts.

The order of exclusion in this case could not be said to be unreasonable. It excluded only those whose cases were positive and suspected who were not at the time under treatment. The seriousness of the disease and its communicable character afforded ample foundation for such an order and even conceding that it might be doubted in the present case whether the children in question were affected the doubt was one that must be resolved in favor of the authorities charged with the serious responsibility of preventing the spread of the disease. This was a case in which mandamus would not issue as a matter of right, but wherein it would issue only in the exercise of a judicial discretion and this discretion should not be exercised in a way that might result in needlessly exposing healthy children to a disease as serious as trachoma.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Diseases of Children, Chicago

February 1920 **19** No 2

Etiology of Arthritis Deformans in Children A H Byfield Iowa City —p 87
Calcium Metabolism of Infants and Young Children and Relation of Calcium to Fat Excretion in Stools L E Holt A M Courtney and H L Fales New York —p 97
*Incidence of Protein Sensitization in Normal Child H M Baker Boston —p 114
Foreign Bodies in Air and Food Passages Report of Cases E L Graham Philadelphia —p 119
*Auriculoventricular Heart Block in Children Report of Case J A E Eyster and W S Middleton Madison Wis —p 131
Abscess of Lungs in Infants and Children H Wessler and H Schwartz New York —p 137
Elimination of Acetone Bodies During Infectious Fever B S Veeder, St Louis and M R Johnston M C U S Army —p 141
Two Cases of Congenital Stricture of Esophagus J L Morse Boston —p 144
Recent Work in Anatomy Physiology and Pathology of Infancy and Childhood J B Holmes Baltimore —p 148

Arthritis Deformans in Children —From a study of cases Byfield concludes that arthritis deformans in children results chiefly from a chronic infection situated in the tonsils and adenoids and in the accessory sinuses of the nose In children less than 3 years of age the portal of infection seems to be limited to the tonsils and adenoids After this time removal of tonsils and adenoids is ineffective in arresting the progress of the disease A sinus infection should be suspected as an etiologic factor if after the tonsils and adenoids are removed there remains elevation of temperature (even if slight), leukocytosis, poor appetite together with a slowness of the joints to become less painful and swollen Relapse and exacerbations are definite indications of the need of nasal treatment Byfield believes that Poncet s disease is probably no more than arthritis deformans in an individual infected with tuberculosis Although supportive and orthopedic measures are helpful surgical treatment of the nasal sinuses is to be regarded as the most important therapeutic measure indicated in arthritis deformans in children The prognosis in uncomplicated cases is good as far as arrest of the disease is concerned The deformity and functional disability may persist for a considerable time

Calcium Metabolism of Infants —The average absorption of calcium oxid by healthy infants taking modifications of cow s milk was 0 09 gm per kilogram of body weight Since the average absorption of calcium oxid by breast fed infants was about 0 06 gm per kilogram it may be assumed that 0 06 gm per kilogram is the minimum normal absorption by infants taking modifications of cow s milk The excretion and the absorption of calcium were in general dependent on the amount of calcium intake from 35 to 55 per cent of the intake being absorbed The calcium absorption was much lower when diarrhea was present With an increased excretion of calcium in diarrheal stools there was a marked decrease in soap excretion The calcium absorption by rachitic infants was much lower than that by healthy infants In the few cases in which observations were made on infants recovering from rickets the calcium absorption was higher than the normal average These infants had received cod liver oil for a considerable period The administration of cod liver oil regularly increased the absorption of calcium unless diarrhea was present

Protein Sensitization —Baker s studies show that the incidence of food sensitization of apparently normal children is almost a negligible factor except in the case of salmon which reaction in any case cannot be considered as an absolute indication of sensitization The articles of diet most commonly causing disturbance in children presenting anaphylactic symptoms are oatmeal potato eggs peas rice casein beef juice and chicken This does not mean that a child with anaphylactic symptoms is not capable of taking any one or all of these articles of diet Only a careful examination can reveal the causative factor In many instances it is only one food while it may be several

Heart Block in Child —A case is described by Eyster and Middleton of partial auriculoventricular dissociation developing in a child, aged 2 years apparently associated with an acute nasal and throat infection This child has been under observation for more than two years At present the cardiac condition is that of a well compensated mitral lesion associated with a 2 1 auriculoventricular block with a ventricular rate between 50 and 60 The child has developed normally and is at present in apparent good health and is normally active A search of the literature revealed twenty reported cases of heart block in children Nearly all of these were definitely or probably of congenital origin or occurred during the course of severe and usually fatal diphtheria The reported case is regarded as being of particular interest in reference to its probable origin and the relatively mild clinical disturbance produced by the condition

Acetone Bodies in Infectious Diseases —Observations were made by Veeder and Johnston on forty one children with scarlet fever diphtheria measles and pneumonia The findings show that while an increased elimination of acetone bodies may occur in the infectious diseases this does not always take place, that in the same patient it may occur during one infection and not during a second that it is not dependent on the severity of the infection or the degree of temperature and lastly that the decreased intake of food so consistently a part of an infectious process, does not explain the causation

Archives of Neurology and Psychiatry, Chicago

February 1920 **3** No 2

*Diagnosis of Peripheral Nerve Injuries S D Ingham and J H Arnett Philadelphia —p 107
*Nature of Aurae L B Alford St Louis —p 124
*Histopathology and Histogenesis of Syringomyelia G B Hassin Chicago —p 130
*Analysis of Blood of Insane Patient P G Weston Warren Pa —p 147
Splints Used for Peripheral Nerve Case at U S Army General Hospital No 11 R C Berki Boise Idaho —p 1 1
Case of Meningo Encephalitis (Lethargic Encephalitis) W W H[illegible] and C M Smith Brooklyn — 160

Diagnosis of Peripheral Nerve Injuries —The authors discuss at length the factors concerned in the diagnosis of peripheral nerve lesions the production of compensatory movements and the lesions of individual nerves considered in reference to compensatory movements and other phenomena They emphasize the importance of careful observation to avoid errors in diagnosis especially in the atypical cases which are the ones that offer the greatest difficulties in neurosurgical diagnosis The fundamental requisites for accurate diagnosis include a thorough anatomic knowledge a mastery of the mechanics of joint action and discriminating observation With the application of these broad principles to neurosurgical diagnosis the difficulties are minimized and the proper treatment can be instituted

Nature of Aurae —Alford attempts to point out anew the analogy between aurae and the hallucinations occurring in connection with sleep hypnosis crystal gazing etc According to this view he says aurae should be regarded not as the result of discharges of an epileptic nature in some part of the cortex but as deficiency reactions like dreams occurring when there is a disturbance of consciousness of a certain type Their relation to the loss or disturbance of consciousness in epilepsy and migraine is assumed to be the same as that of dreams to drowsy or sleep states and their content should be regarded as being determined by the same factors that determine the content of dreams and similar hallucinations Their relation to structural changes may be the same as that of those hallucination which develop in connection with disease of the organs of special sense or of the nerves connecting them with the brain

Pathogenesis of Syringomyelia —From the study of his own case and of previous contributions to this question the conclusion is drawn by Hassin that in syringomyelia there are a number of specific pathologic changes which differ totally from those to be found in any other spinal cord lesion—changes which stamp syringomyelia as a distinct anatomopathologic entity A very full report is made of the results of the microscopic examination of the spinal cord in the author's case

Blood of Insane Persons—The blood of thirty insane patients, selected cases of dementia praecox, epilepsy and manic depressive insanity, was examined by Weston to determine the chlorin and urea nitrogen content No deviation from the normal content of total nitrogen, nonprotein nitrogen, uric acid, urea, creatinin, creatin, glucose, chlorin or calcium was found

Meningo-Encephalitis—The case reported by Hala and Smith was interesting because it displayed not only the characteristic histopathologic lesions observed in the brain by others, but also on account of the intense purulent meningitis and ependymitis found at necropsy The fact that an organism was isolated both antemortem and postmortem, which evidently was the etiologic factor concerned, is noteworthy From the clinical standpoint the case was one of meningo-encephalitis, with lethargy and involvement of the motor fibers of the third, sixth, seventh, tenth and twelfth cranial nerves The etiologic cause was a gram-negative motile bacillus, unidentified but probably belonging to some intermediate class of the colon-typhoid enteritidis group Pathologically, the lesion demonstrated septic meningo-encephalitis and ependymitis with punctate hemorrhages and perivascular cell infiltration of the centrum ovale, corpus striatum and optic thalamus

Archives of Ophthalmology, New York

January 1920 **49**, No 1

Teaching of Ophthalmology F H Verhoeff Boston—p 1
Postgraduate Teaching of Ophthalmology M Wiener St Louis—p 9
Postgraduate Course in Ophthalmology A Duane New York—p 17
Epithelial Inlay and Outlay in Lid Repair S H McKee C A M C—p 30
War Injuries of Eyelids J M Wheeler Ft McHenry Md—p 35
Vernal Conjunctivitis W H Luedde St Louis—p 43
Routine Office Measurement of Stereopsis D W Wells Boston—p 64
Motor Muscles of Eye E H Hazen Des Moines—p 70
Nature of Trachoma Normal Histology of Conjunctiva K Hiwatari Kioto Japan—p 82
Case of Atypical Albuminuric Retinitis C A Clapp Baltimore—p 98

Florida Medical Association Journal, St Augustine and Jacksonville

January 1920 **6**, No 7

Diagnosis of Upper Abdominal Symptoms H C Dozier Ocala—p 132
Doctor and Druggist W M Hankins Daytona—p 138

Journal of Abnormal Psychology, Boston

October 1919 **14**, No 4

Psychogenesis of Multiple Personality M Prince, Boston—p 225
A Divided Self C E Cory, St Louis—p 281
Problems in Sex Education H W Brown—p 292

Journal of Bacteriology, Baltimore

November 1919 **4** No 6

So Called Reduced Oxygen Tension for Growing Meningococcus E F Kohman Camp Jackson S C—p 571
Nomenclature of Actinomycetaceae R S Breed and H J Conn Geneva N Y—p 585
Culture Medium for Maintenance of Stock Cultures of Bacteria M C Worth Detroit—p 603
Value of Presumptive Tests for Coli Based on Routine Use of Lactose Bile and Lactose Broth V Ritter Lawrence, Kan—p 609
Morphologic Changes During Growth of Bacteria P F Clark and W H Ruehl, Madison, Wis—p 615

So-Called Reduced Oxygen Tension for Growing Meningococcus—Experiments were made by Kohman to determine the role that carbon dioxid plays in the cultivation of the meningococcus He found that by making defibrinated human blood agar medium with a p_H of from 7 8 to 8 0, and incubating the meningococcus in a partial atmosphere of carbon dioxid, the same medium may be used for this organism which is used for the pneumococcus and the streptococcus

Culture Medium for Maintenance of Stock Culture of Bacteria—A medium of the following composition Worth found favorable for the preservation of *B typhosus, B paratyphosus, B coli, B dysenteriae, B pertussis, Micrococcus catarrhalis,* a streptococcus, and the meningococcus and gonococcus for several months without transfer Nutrient gelatin chopped beef, 500 gm , water, 1,000 c c Heated in a water bath (50 55 C) for one hour Strain through a bag cloth, the volume being restored peptone, 10 gm , sodium chlorid, 5 gm , gelatin, 100 gm Dissolve, filter adjust to 1 per cent acid Sterilize for twenty minutes at 100 C Inoculation is made and the cultures are placed at 37 C for twenty-four hours after which they are stored at 20 C with the exception of the meningococcus and gonococcus which are kept at 37 C Without further attention *B typhosus* retains its viability, characteristic appearance, and agglutinating power for eight months, *B coli* for eleven months, meningococcus for eight months, *B paratyphosus, B pertussis* and *B dysenteriae* for eight months The streptococcus was still in good condition at the end of four months

Journal of Infectious Diseases, Chicago

February, 1920, **26**, No 2

Varieties of Streptococci with Special Reference to Constancy B J Clawson Chicago—p 93
Human Fecal Streptococci C J Oppenheim Chicago—p 117
Some Factors Influencing the Potency of Concentrated Antitoxic Serum C R Hixson Woodworth, Wis—p 130
Influence of Normal Beef Serum on Anthrax Bacillus J A Kolmer, D C Wanner and M F Koehler, Philadelphia—p 148
*Some Factors Influencing the Final Hydrogen Concentration in Bacterial Cultures with Special Reference to Streptococci H Jones Chicago—p 160
Effect of Pasteurizing Temperatures on Paratyphoid Group E M Twiss Chicago—p 165
Fate of Streptococcus Hemolyticus in the Gastro Intestinal Canal D J Davis Chicago—p 171
Influence of Brilliant Green on Diphtheria Bacillus J A Kolmer, S S Woody and E M Yagle Philadelphia—p 179

Varieties of Streptococci and Constancy—The work reported by Clawson deals with the characteristics of strains of streptococci isolated from various sources Particular attention is given to the constancy of the special characteristics of streptococci, such as peculiarities in morphology, the action on the blood-agar plate, the fermentation of the various carbohydrates, and the immune reactions, such as agglutination and complement fixation

Human Fecal Streptococci—Mannite fermenting nonhemolytic streptococci, according to Oppenheim, are the characteristic predominant types found in the feces of normal individuals The indifferent" variety of streptococcus in the feces of normal persons is inconstant in its indifference to the formation of green, green formation would seem to be favorably influenced by the alkalinity of the mediums Hemolytic streptococci are but exceptional findings in the stools of normal, healthy people, and are inconstant in occurrence No apparent morphologic characteristics, aside from those dependent on rapid luxurious growth, characterize the human fecal streptococci

Potency of Concentrated Antitoxic Serum—The experiments reported by Hixson were designed to investigate the influence of heat on the antitoxic content of the globulin fraction

Final Hydrogen-Ion Concentration in Bacterial Cultures—Jones results show that to obtain any accurate information regarding the final hydrogen-ion concentration of an organism a number of factors should be taken into consideration This characteristic the limiting hydrogen-ion concentration of a given organism, to have any significance or subsequent application should be defined in terms of the composition of the medium the initial reaction and any other conditions which favor or hinder abundant growth of that organism

Streptococcus Hemolyticus in Digestive Canal—Examination of the gastro-intestinal canal at various levels in rabbits fed hemolytic streptococci showed that this organism does not develop appreciably in the intestine, nor does it readily gain a permanent foothold there Rabbits with generalized streptococcus infection in joints, blood, etc , showed no hemolytic streptococci in the intestinal contents Gastric juice of normal acidity from man and from rabbits kills these hemolytic micro-organisms in from two to five minutes Gastric juice in achylia may not kill them in several hours In normal human feces hemolytic streptococci were not found by Davis in fifty-three cases Hemolytic streptococci when mixed with normal feces will live in the icebox for at least several days In the incubator they tend to die out rapidly

Effect of Brilliant Green on Diphtheria Bacillus—Brilliant green was found highly bactericidal and antiseptic for a virulent diphtheria bacillus in vitro by Kolmer and his associates, the presence of blood and serum in the medium reduced the bactericidal activity The dye was found also highly bactericidal and antiseptic for staphylococci Brilliant green possesses much less bactericidal and antiseptic activity for *B typhosus* and *B coli* particularly for the former The use of brilliant green in the treatment of carriers of diphtheria and pseudodiphtheria bacilli usually resulted in the temporary disappearance of these bacilli from the nose, throat and ears of the treated persons permanent ridding of these tissues of the bacilli however was not observed Owing to the high bactericidal activity of brilliant green for *B diphtheriae* and such pathogenic cocci as staphylococci, streptococci and pneumococci the authors suggest the probability that the clinical use of a 1 250 solution of the drug in water may prove of value in the local treatment of infections caused by these organisms

Medical Record, New York

January 1920 **97** No 3

Diagnostic Pitfalls in Pulmonary Tuberculosis M Fishberg New York—p 89
Genesis and Diagnosis of Mental Diseases E Brodsky Westport Conn—p 94
*Reflex Phenomena in Influenza Cases S Ginsburg New York—p 98
Roentgenography in Artificial Pneumoperitoneum A S Hyman Dorchester—p 100
Community Health Units and Health Insurance A C Burnham New York—p 103
Legislative History of Compulsory Insurance in State of New York J P Davin New York—p 105
Lapsus of Memory H Laveson New York—p 106

Reflex Phenomena in Influenza Cases—The two chief characters which Ginsburg observed in his cases were 1 The almost constant presence of pleuropulmonary involvement in every case of pandemic influenza no matter how mild the clinical course of the disease 2 The almost invariable accompaniment of reflex phenomena in the neck chest, abdomen or back whenever pleuropulmonary involvement was found on physical examination at some time during the course of the disease Ginsburg says, that it was striking to find patient after patient on the first day of the disease complaining of reflex pain with no lung signs and then later to develop pleuropulmonary signs in accordance with the reflex phenomena Frequently on further investigation of the case, he was able to find the proof that a diseased viscus was responsible for the visceromotor and viscerosensory phenomena

Missouri State Medical Ass'n Journal, St Louis

February 1920 **17** No 2

Preventive Medicine and War M P Ravenel Columbia—p 49
Acute Empyema Diagnosis and Treatment W T Coughlin St Louis—p 56
Treatment of Empyema by Carrel Dakin Method H E Happel St Louis—p 59
Primary Carcinoma of Nasopharynx Report of Case O A Smith Farmington—p 62
Hysteria T F Lockwood Butler—p 65
Ear Nose and Throat Service in a Base Hospital S S Burns St Louis—p 69

Primary Carcinoma of Nasopharynx—A woman aged 51 years, had had trouble with her nose for about one year when Smith saw her Anterior rhinoscopy was practically negative. Posterior rhinoscopy revealed a mass in the vault of the pharynx resembling to some extent adenoids but seemed too firm for adenoids was irregular and presented a fungous arrangement This mass occupied almost the entire vault so that the obstruction to breathing through the nose was quite complete Glandular enlargements to the size of hazelnuts were noticeable along the sternocleidomastoid muscle on both sides of the neck Blood examination revealed a leukocytosis of 12 000, hemoglobin 70 per cent Blood Wassermann was negative urine normal The mass was removed and it proved to be a carcinoma A large swelling developed under the angle of the right jaw The glands extending down the right side of the neck to the clavicle were immensely enlarged attaining the size of small cocoanut and other masses of enlarged glands developed some of them on the lower extremities The masses on the neck and limb broke down and a septic condition developed with chills and fever Nausea and vomiting began soon and continued until her death seven months after operation

Neurological Bulletin, New York

September 1919 **2** No 9

Aneurysm in Posterior Cranial Fossa H S Howe New York—p 323
*Chronic Nondegenerative Hereditary Chorea I S Wechsler New York—p 329
Traumatic Neurosis M Osnato New York—p 334
Traumatic Hysteria M Osnato New York—p 341
Cerebral Glioma and Acute Hemorrhagic Encephalomyelitis H S Howe New York—p 349

Aneurysm of Right Vertebral Artery—Analysis of his findings leads Howe to conclude that the diagnosis of intracranial aneurysm in his case was *reasonably* certain on consideration of the clinical history and the neurologic findings The history was that of irritation and later paralysis of the right seventh eighth tenth eleventh and twelfth nerves These lesions could be produced by a new growth a basilar meningitis or an aneurysm of the vertebral arteries but it is not probable that a new growth in this locality of four years duration could produce this group of findings without also causing compression of the medulla or cerebellum and signs of increased intracranial pressure basilar meningitis was excluded by the negative serologic findings A murmur was heard and while murmur alone is not pathognomonic of aneurysm in conjunction with other findings it does indicate aneurysm and in this case it lead Howe to make a diagnosis of aneurysm of the right vertebral artery originating at the junction of this vessel with its largest branch, the posterior inferior cerebellar

Chronic Nondegenerative Hereditary Chorea—Wechsler reports the case of a young woman aged 36 who had been suffering from a chronic nonprogressive chorea for sixteen years Her father undoubtedly had chorea for twenty years but apparently it was not degenerative in character One brother had shakings of the arms, one daughter was 'nervous , two boys had chorea one of them a severe form which had lasted almost three years with some mild remission the other a continuous mild form also of three years duration The clinical picture of the patient herself was typically huntingtonian in behavior There was no doubt about the hereditary nature of the condition three generations showing chorea of a continuous and prolonged nature But the patient did not show two of the most prominent symptoms which go with a Huntington s chorea The patient s condition is not progressive in fact it is stationary if not somewhat better she has no defective mentality not to speak of even an approach to dementia Her attention alone is defective She has attacks of fainting or so called spells of weakness which speak in its favor but there is nothing else either of psychic or somatic nature to confirm that diagnosis, nor would a hysterical condition be compatible with chorea Chorea gravidarum is a remote possibility in this case as the condition began ostensibly with a miscarriage but that type of chorea usually stops with the emptying of the uterus and only rarely becomes chronic Also it is never hereditary Senile chorea is out of the question Paramyoclonus multiplex is ruled out because of the absence of the lightning-like rapidity and universality of *contraction* found *in* this disease and the bizarre character of gait facial and tongue movements, and the hereditary or familial attributes are lacking

Cerebral Glioma and Encepha
diagnosis of epidemic encephal

confirmed at the necropsy A glioma of the right cerebral hemisphere and a hemorrhagic encephalomyelitis were found The existence of the glioma, although it was of large size, had never been suspected as it had caused neither general symptoms nor focal signs

New York Medical Journal

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Acquired Retrodisplacements of Uterus J O Polak, Brooklyn —p 89
Technic of Tonsillectomy in Use at Camp Hancock Army Hospital 1918 G M Coates, Philadelphia and M Raskin Baltimore —p 92
Ligation of Internal Iliac Artery in Gynecologic Operations R Massart, Paris —p 94
Hemostasis Obtained with Small Rubber Bands Instead of Ligatures A L Sorest New York —p 96
Case of Dwarfism in Twins H Goldstein and M Schneck New York —p 97
History of Patients Suffering from Rectal Disorders in Relation to Diagnosis A A Landsman New York —p 100
Analysis of Eighty Cases of Bronchial Asthma A Sterling Philadelphia —p 104
Poland World War from Medical Aspect F A Fronczak, Buffalo —p 107
Sarcoid Tuberculosis of Skin C G Cumston Geneva, Switzerland —p 112

Ligation of Internal Iliac Artery in Gynecologic Operations—According to Massart ligature of the internal iliac artery in extensive abdominal hysterectomy for cancer of the neck of the uterus is at times indispensable, at least, it is to be advised in the majority of cases This ligature affects all of the territory irrigated by the branches of the internal iliac artery including the uterine artery It prevents oozing in the vaginal section facilitates the maneuvers of liberating the ureters and relieves the surgeon from caring for a long and minute hemorrhage Massart practices Faure s ligation of this vessel

New York State Journal of Medicine

January 1920 **20,** No 1

Neurologic Cases with Eye Manifestations W B Weidler and J M Joughin —New York —p 1
Treatment of Cancer of Uterus H C Taylor, New York —p 8
Cautery Method in Treatment of Uterine Cancer V L Zimmermann Brooklyn —p 11
Social Insurance H L Winter Cornwall —p 15
Development of State Departments of Health in Relation to Health Insurance and Industrial Hygiene A B Wadsworth Albany —p 21

Northwest Medicine, Seattle, Wash

January 1920 **19** No 1

Septic Bone Infections with Special Attention to Osteogenesis in Sepsis I A Rich Tacoma —p 1
*Surgical Treatment of Trifacial Neuralgia A W Adson Rochester Minn —p 6
Eighteen Months Experience with Radium A Jordan Seattle —p 11
Surgery Versus Radium or Roentgen Ray in Treatment of Uterine Fibroids A A Matthews Spokane —p 15
Bacteriology of Influenza M E Steinberg Portland —p 18
Discrepancies and Standardization of Wassermann Test G Hollister Spokane —p 21
Use of Dionin in Wood Alcohol Blindness R A Fenton Portland —p 22

Surgical Treatment of Trifacial Neuralgia—After dividing the posterior root in sixty-seven cases of trifacial neuralgia during the last two and one half years Adson is convinced that patients can be relieved of this disease by this procedure without any serious complications and he strongly advocates that patients be encouraged to have the radical operation performed in preference to the alcohol injection or avulsion of the peripheral branches unless there is some doubt concerning the diagnosis or if the patient is a poor operative risk or requires preliminary preparation

Ohio State Medical Journal, Columbus

Jan 1 1920 **16,** No 1

Pre Operative Treatment of Hyperthyroidism W D Haines Cincinnati —p 7
Value of Pain as Symptom J Baxter Newark Ohio —p 1
Clinical Serology in Relation to Disease of Eye Ear Nose and Throat O Berghausen Cincinnati —p 14
Otolaryngological Work at Hospital for Head Surgery, Cape May N J J M Ingersoll Cleveland —p 17
Results of Routine Wassermann Tests in Children C Spehr Columbus —p 21

Enlarged Thymus, Symptoms and Treatment E R Brooks, Cleveland —p 23
Value of Public Health Nurse to Community H R Stewart New York —p 26

Public Health Journal, Toronto

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Preparation of Smallpox Vaccine J G Fitzgerald Toronto —p 585
Some Successes and Some Failures of Medical Profession W B Moore Kentville N S —p 590
Plan for More Effective Federal and State Health Administration F L Hoffmann Newark N J —p 597
Prostitute as Health and Social Problem R S Yarros Chicago —p 606
Poverty as Factor in Disease C E A Winslow, New York —p 612

Southwestern Medicine, El Paso

January 1920 **4,** No 1

Paraffin Wax Method of Treatment of Burns C G McMahon Miami —p 1
Roentgen Ray and Radium Actions and Reactions A Soiland and C W Stewart Los Angeles —p 7
Oral Infection and Systemic Disease E J Cummins El Paso —p 12

Surgery, Gynecology and Obstetrics, Chicago

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Plastic Surgery of Facial Burns H D Gilles Sidcup England —p 121
Gunshot Fractures of Femur A Bowlby London —p 135
Postoperative Tetanus R R Huggins Pittsburgh —p 142
Ununited Fractures of Hip M S Henderson Rochester —p 145
*Operation for Advanced Carcinoma of Tongue or Floor of Mouth V P Blair St Louis —p 149
Acute Empyema of Throat Treated by Minor Intercostal Thoracotomy P W Aschner New York —p 154
Operative Treatment of Advanced Pulmonary Tuberculosis W Meyer, New York —p 161
Rapid Expulsion of Placenta G Sklavounos Athens Greece —p 168
Sterility B Solomons Dublin Ireland —p 175
Safety Factors in Surgery with Especial Reference to Blood L Frank Louisville —p 182
Bilocular (Hour Glass) Stomach V Pauchet Paris —p 190
Bone Changes in War Amputation Stumps T G Orr Kansas City —p 195
Cysticercus Racemosus (Taenia Solium) Infection of Spinal Cord A R Kimpton Boston —p 198
Plastic Repair of Hard Palate for Loss of Substance from Gunshot Wound F H Albee New York —p 201
Epididymectomy an Improved Technic M Stern New York —p 205
Prostatic Ambulant Postoperative Management A E Rockey Portland Ore —p 206
New Cystoscopic Table H L Kretschmer Chicago —p 207
Rammstedt Operation in Adult H F Graham Brooklyn —p 208
Use of *Intramedullary and Extracortical Beef Bone Splints in Repair* of Fractures of Long Bones A C Brenizer Charlotte N C —p 209
Large and Small Doses of Radium C W Hanford Chicago —p 210
Presentation of a New Pan Device on a Cystoscopic Table C S Levy, Baltimore —p 212

Plastic Surgery of Facial Burns—The result of various plastic methods employed by Gillies for the relief of the distressing deformities and disabilities arising as the result of contractions following severe facial burns are described in detail in connection with case reports

Postoperative Tetanus—In the case cited by Huggins, one of complete removal of the uterus and appendages the patient developed symptoms which were typical of tetanus but bacteriologic proof could not be obtained Smears and cultures were made from the abdominal wound which had healed without any evidence of infection Cultures were also made from the vagina No growth could be obtained which in any way resembled the tetanus bacillus This was true also of the catgut used at operation A study of the spinal fluid was also negative The case suggests the possibility of false tetanus under certain circumstances

Operation for Cancer of Tongue—The operation described by Blair is said to be properly applicable to the more advanced cases, especially those that also involve the jaw, the floor of the mouth or the base of the tongue, or those with palpable involvement of the submaxillary nodes, and to early cases in which after removal by a less radical procedure examination reveals a high grade malignancy It consists in the block removal from below of the tongue, the structures in the floor of the mouth, all muscles above the body of the hyoid bone and stylohyoid muscles, the submaxillary and submental lymph nodes and as much of the faucial pillars and pharynx as desired together with thorough cauterization of the mandible wherever the ulcer approaches or involves it The mandible is not divided

Extrapleural Thoracoplasty in Pulmonary Tuberculosis—Meyer discusses his experience with extrapleural thoracoplasty in suitable patients with advanced tuberculous affection of the lung, in whom therapeutic pneumothorax is not feasible

Rapid Expulsion of Placenta—The injection of salt solution into the placenta through the omphalic veins in the cord was tried in thirty hospital cases at the suggestion of Sklavounos The placenta was expelled spontaneously within from three to five minutes, and without any other manipulation In a few instances the injection was not entirely successful and the Crede method had also to be used The failures were due to imperfections in technic The method is said to be superior to the Crede method and to manual removal The necessary instruments are (1) an ordinary syringe, (2) a metallic cannula attached to the distal end of the rubber tube (this cannula must have a perimeter of 1 5 cm and a groove behind the lumen to prevent slipping of the cord when attached to the cannula), (3) a pair of scissors and a clamp Fifteen or 20 gm of salt are added to 1 500 c c of sterilized hot water (temperature 50 to 60 C) The cannula is inserted in the immobilized lumen of the vein and the vein is tied about the groove in the cannula The salt solution is injected into the vein which swells and takes on a white instead of the previous blue color The swelling of the arteries proves that the injection has been successful So soon as 200 c c of the salt solution is injected detachment of the placenta begins When water comes from the arteries they are pressed with a clamp and the result of the injection is waited for To prevent formation of clots in the vessels and facilitate the circulation of the injected liquid, Sklavounos adds 2 per cent. sodium nitrate to the salt solution

Safety Factors in Surgery—Frank's observations lead him to conclude that a patient is not in the best possible condition to undergo any surgical procedure when he has a hydrogen-ion concentration of his blood below p_H 7 35 a carbon-dioxid tension in the alveolar air below 35, a soda tolerance test above 15, an Ambard coefficient above 0 10, a urine which shows but little variance in quantity from day to day and with the specific gravity varying less than seven points regardless of the intake, also nocturnal polyuria, a phenolsulphonephthalein output below 40 unless it can be accounted for by disease of other organs the liver particularly

Bilocular Stomach—Pauchet has operated in twenty-five cases of bilocular stomach, a resection being done in twenty-three cases These operations were divided as follows one gastroplasty, two gastrogastrostomies, either alone or associated with a gastro enterostomy, four mediogastric resections, and eighteen pylorogastrectomies He has reoperated on two patients on whom a pyloroplasty gastrogastrostomy and gastro-enterosotmy had been performed These operations resulted in two deaths one case was complicated by a perigastric abscess and in the other there was an extensive perforating ulcer These operations were performed under reginal or spinal anesthesia with or without several whiffs of nitrous oxid for several seconds Pauchet says that the extensive resections have given by far the best end-results

Tenia Solium in Spinal Cord—Kimpton is of the opinion that his case is the first in this country and the only case where a pork tapeworm has been removed successfully from the spinal cord during life Mercur found a similar tumor of the spinal cord but at necropsy A diagnosis of spinal cord tumor at the fourth or fifth dorsal segment had been made in Kimpton s case and operation was advised A laminectomy was done on the fourth fifth and sixth dorsal vertebrae and the cord exposed There was a distinct difference in the tension of the cord The tension appeared to be greater, and the cord was paler in this region The cord membranes were incised and this revealed a translucent tumor The tumor was easily shelled from the cord It appeared as a gelatinous mass The pathologic diagnosis was cysticercus racemosus

Epididymectomy—Stern separates the epididymis from the blood supply of the testis by careful dissection and then ligates the epididymis

Rammstedt Operation on Adult—Graham reports a case of pylorospasm in a man aged 46 Operation produced a cure

Beef Bone Splints—Brenizer discusses the use of beef bone splints and cylinders which have been boiled and kept in alcohol until every organic living cell is dead

Texas State Journal of Medicine, Fort Worth

January 1920 **15** No 9

Influenza Its Complications and Sequels A Woldert Tyler—p 318
Influenza Echoes and Experience T M Frazier Belton—p 21
Future of Tuberculosis H F Gammons Dallas—p 2
Some Predisposing Factors in Development of Pulmonary Tuberculosis R B Homan El Paso—p 327
Classification and Treatment of Pulmonary Hemorrhage Due to Tuberculosis S E Thompson Kerrville—p 328
Psychotherapy in Tuberculosis W O Wilkes Waco—p 3 1
Serum Treatment of Acute Lobar Pneumonia J E Robinson Temple—p 335

U S Naval Medical Bulletin, Washington, D C

Hospital Corps Quarterly

January 1920 No 12

Air Station at Dunkirk R W Meals U S Navy—p 9
Harmful Parasites of Man R H Laning M C U S Navy—p 2
Hospital Corps Training School at Great Lakes R G Davi M C U S Navy—p 30
In the Thick of the Fight F Tousic U S Navy—p 3
Testing Aneroid Sphygmomanometers C Schaffer M C U S Navy—p 40
Naval Pharmacist Afloat F J Shea U S Navy—p 44
Pharmacist s Mates School P F Dickens M C U S Navy—p 46
Technic of Roentgen Ray Plate Development A P Evans M C U S Navy—p 68

Virginia Medical Monthly, Richmond

January 1920 **46** No 10

Surgical Treatment of Intestinal Stasis J S Horsley Richmond—p 247
Rales from Expiration and Cough as a Means to Early Diagnosis in Tuberculosis B L Taliaferro Catawba Sanatorium—p 2 1
Hemoptysis E E Watson Salem—p 252
*Home Treatment of Pulmonary Tuberculosis W E Brown Catawba Sanatorium—p 254
Artificial Pneumothorax F G Simmons Salem—p 257
Tuberculosis and General Practitioner H G Carter Burkeville—p 259
*Simple Method of Controlling Secondary Hemorrhage after Operation for Piles R B James Danville—p 263
Diagnostic Points for Re Education of Neglected Pareses and Simila Impairments of Motion J M Taylor Philadelphia—p 264

Surgical Treatment of Intestinal Stasis—Horsley reports the end results in seventy-four cases of intestinal stasis in which he operated between February 1912 and September 1917 In twenty-two patients the operation performed was appendectomy and division of Lane s band Thirteen of the reported that they were greatly improved eight that the were improved There was none unimproved and no deaths One patient did not report In twenty-seven cases the Coffey or hammock operation which consists in suturing the gastrocolic omentum to the abdominal wall was done Of this number twelve reported great improvement ten were improved and two were unimproved Two died and from one patient no report could be obtained In seventeen patients cecosigmoidostomy was done In this group six patients were greatly improved four were improved five were unimproved one patient died and from one patient no report was obtained In five cases the Coffey operation and cecosigmoidostomy was done Of these patients three were greatly improved and two were unimproved In three case ileosigmoidostomy was done None of these patients was greatly improved but two are classed as improved All recovered from the operation One patient died from pneumonia two years and two months after leaving the hospital Summing up this group of seventy-four cases thirty
patients (46 per cent) are great
(32 5 per cent) are improved
proved four (5 5 per
were no heard fro

from five months to five and one-quarters years from the time of operation

Hemoptysis—This paper was abstracted in THE JOURNAL, Nov 29, 1919, p 1722

Home Treatment of Pulmonary Tuberculosis—This paper was abstracted in THE JOURNAL, Nov 29, 1919, p 1722

Controlling Secondary Hemorrhage After Operation for Piles—In a case cited by James secondary hemorrhage was controlled without disturbing the patient, by slipping a rubber glove finger over a glass tube, 3 inches long, and wrapping the open end of the glove finger securely around the near end of the tube, and attaching to the projecting tube a rubber bulb such as is used in a common atomizer By inserting this rubber covered tube between the sphincters and pumping in air sufficient compression was produced to control the hemorrhage, with no pain or distress to the patient and without disturbing him in the least A clamp was placed on the rubber tubing, and the apparatus was left in place for three days when on removing the clamp the air escaped and in an hour or two the apparatus had come away without the knowledge of the patient

West Virginia Medical Journal, Huntington

January 1920 **14** No 7

Fractures W W Golden Elkins—p 241
Failure of Restricted Operations in Cancer of Breast A McGlannan Baltimore—p 247
Schick Reaction W E Smith Minden—p [illegible]
Head Injuries Some Case Reports I M Emmett and R J Wilkinson Huntington—p 254
Angioneurotic Edema W E Vest Huntington—p 258
Diabetes Mellitus with Multiple Abscesses Report of Case O L Perry Elkins—p 261

Wisconsin Medical Journal, Milwaukee

January 1920 **18**, No 8

Preventive Medicine Stool Examinations for Diagnosis of Intestinal Parasite W D Stovall Madison—p 328
Diphtheria Vincent's Angina and Other Infections of Nose and Throat W D Stovall Madison—p 329
Need for Morbidity Registration in Wisconsin R Olesen, Madison—p 333

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

Brain, London

October 1919 **42**, Part 3

War Neurasthenia—Acute and Chronic D W Carmalt Jones—p 171
*Hyperglycemia in Mental Disorders F H Kooy—p 214

War Neurasthenia—After having cases of this type under observation for one year, Jones is convinced of the reality, the severity and the amenability to treatment of this disease He believes that the symptoms of this condition are due, in part at least, to prolonged overstimulation of the ductless gland, chiefly the suprarenal Jones pleads for recognition of this disease and its appropriate treatment by competent men if possible in a special hospital given over entirely to these cases

Hyperglycemia in Mental Disorders—Two of ten cases of dementia praecox examined by Kooy with reference to the blood sugar content showed a higher count than 1 30 per mille after breakfast In nine cases of dementia paralytica, the average of the highest amounts was 1 33 per mille Six of the nine patients had without excitement or apoplexy an amount above 1 30 per mille after breakfast An examination of nineteen cases of melancholia showed that in this disease the blood sugar is much increased If 1 10 before breakfast is the normal limit then nine patients had surpassed that figure Examination of four cases of true neurasthenia and psychasthenia without any bodily abnormalities, showed plainly that emotions cause hyperglycemia in man The blood sugar is very much increased when the patients who have confusional insanity are in a highly emotional state, whereas it decreases on recovery The results with mania are extremely variable Optimism and highly increased blood sugar run parallel Increase in blood sugar, as a rule, is highest in real emotional states, such as may occur in mania at its climax, it is smaller, although still present, in the milder form of mania, and absent in those hypomaniacal forms in which the patient is only optimistic, cheerful and inclined to be jocular Emotions, especially those of a depressive character, cause an increase in blood sugar They, therefore, have a deteriorating influence on diabetes mellitus They may cause a temporary hyperglycemia and even glycosuria in normal persons not suffering from saccharin diabetes Even a considerable increase in blood sugar need not be a symptom of disordered metabolism Hyperglycemia may occur with any emotional state in mental disorders Kooy found it to occur in emotional states of patients suffering from general paresis, epilepsy, dementia praecox, traumatic neurosis and neurasthenia Glycosuria and hyperglycemia are most frequent in melancholia Kooy's investigation has shown that hyperglycemia before breakfast (spontaneous hyperglycemia) is not a constant symptom in melancholia, but it was constantly present after the patients had taken ± 200 c c of milk and ± 100 gm of bread and butter (alimentary hyperglycemia) With marked anxiety there was the highest amount of sugar in the blood

Bristol Medico-Chirurgical Journal

December 1919, **36**, No 137

Contemporary Medicine from Standpoint of Pathology I W Hall—p 9
Disease in Mesopotamia F P Mackie—p 118
Treatment of Ununited Fractures Use of Bone Grafts E W H Groves—p 132
Stammering as It Occurred in War R G Gordon—p 145

Lancet, London

Jan 17 1920 **1**, No 5029

Application of War Methods to Civil Practice A Bowlby—p 131
Surgery of Heart C Ballance—p 134
Treatment of Malunion in Fractures of Femur W E Wilson—p 139
Meaning of Tachycardia R M Wilson—p 146
Case of Dislocation of Cervical Spine J P Buckley—p 149
Ureter Calculus of Unusual Size F Kidd—p 150
Diverticulitis Report of Cases G G Turner—p 151
Acute Hydropneumothorax J W T Thomas—p 152
Case of Sudden Complete Procidentia Recti in Young Adult Male W R M Turtle—p 153

Surgery of Heart—In certain cases of purulent infection of the pericardium Ballance holds that the culdesac of Haller should be drained He believes that the operation is justified on anatomic and pathologic considerations He feels that the surgery of the heart will occupy in the coming time a conspicuous place in surgical practice The reward of success will attend efforts in so far as the heart is treated as one of the ordinary tissues of the body and the method of operation conforms to the fundamental principles of surgery

Significance of Tachycardia—According to Wilson tachycardia in a man who is up and about is compensatory in character the addition of acceleration to augmentation It points to the presence of a mild infection and can be removed only by removing the infection There is evidence that the action of the toxin is directly on the cardiac vagus

Ureter Calculus of Unusual Size—The stone in Kidd's case measured 2¼ inches in its long diameter and 1 inch in its short diameter and weighed 1 ounce It consisted of phosphates with a trace of oxalates, and contained no cystin, no carbonate and no uric acid The stone lay below the pelvic brim Very few symptoms had been caused by it

Acute Hydropneumothorax—In Thomas' case the acute hydropneumothorax resulted from an old gunshot wound of the chest The patient recovered in spite of a communication between the pneumothorax and the stomach

Jan 24 1920 **1**, No 5030

Pulmonary and Other Forms of Tuberculosis H B Shaw—p 179
*Carbon Monoxid Poisoning in Warfare W J Rutherfurd—p 184
*Rickets in Germany Study of Effects of War on Children Engel—p 188
Case of Severe Cerebral Toxemia Following Intravenous Injection of Novarsenobillon R J G Parnell—p 190
*The Schick Reaction for Determination of Susceptibility to Diphtheria H M Leete—p 192
Treatment of Malaria in Macedonia A G Phear—p 194
Bilharziasis Its Incidence and Eradication F Milton—p 196

Carbon Monoxid Poisoning in Mines—Carbon monoxid is produced during explosion of charges in mines Where the mine is deeply placed, or where a small charge has been used so that the surface of the ground has not been broken the gas is either forced into the underground system of mine galleries or gradually percolates into the galleries through cracks and porosities in the ground and in these circumstances the miners become subject to this form of gas poisoning the severity of which may range from mere headache and debility to coma and death In some cases the reflux of carbon monoxid after an explosion has come up to the mine shaft and caused gas poisoning in the trench in the near vicinity to the mine entrance Carbon monoxid has the effects of a cumulative poison even in relatively small quantities The various explosive substances (with certain exceptions such as the acetylene compounds) contain within themselves a considerable amount of oxygen which is however generally insufficient for the complete oxidation of all the constituent oxidizable elements In consequence not only may there be the formation of carbon monoxid, but hydrogen marsh gas and certain other oxidizable substances may be liberated as the result of the detonation of various explosives The methane is said to result from interaction of the hydrogen with the oxids of carbon as the hot gases cool down and not to be formed at the time of the explosion Nitroglycerin is an exemple of the explosives which are completely oxidized on detonation and this substance exists to the extent of 75 per cent in dynamite and 30 per cent in cordite, besides being present in smaller proportions in many of the blasting gelatins Carbon monoxid is produced as the result of the use of a large series of explosives such as gunpowder (whether in the form of rifle powder 'cocoa powder," or blasting powder) gun cotton (either by itself or as cordite, of which it forms 65 per cent , smokeless powder, which is 98 per cent gun cotton with 1 per cent of acetone and 1 per cent of moisture etc or the blasting gelatins) and ammonal, the latter of which is used extensively and in enormous quantities The fulminate in the detonators also liberates carbon monoxid in small amount It is the carbon monoxid thus produced and produced in these high proportions and enormous quantities which is absorbed in the chalk and forced into the fissures either existing naturally or resulting from the explosion of the charges that have been laid, that is being constantly encountered by those engaged in the work of the various tunneling companies and which frequently results in the occurrence of cases of gas poisoning of this specialized nature Owing to the gas being contained in cracks among the chalk it is found in what are described by the miners as pockets and owing to this fact in many instances the gas is liberated too suddenly for the men to notice any alteration in the behavior of the test animals (mice or canaries) that they have with them before they are themselves beginning to be affected

Rickets in Germany Effects of War on Children—Engel says that only in the very latest period of the war did weakly children under weight begin to appear in greater number The average of weight of new-born children as observed in the lying-in hospital was then reduced The general health of infants was good the mortality rate low The number of births had fallen sharply a circumstance which always reacts favorably on infant mortality In addition to this chiefly in consequence of the shortage of cow s milk and encouraged by a special grant from the state breast feeding became more prevalent The mortality rate of infants was permanently reduced The position of children between two and five years of age however became more and more unfavorable In spite of the fact that their number also fell and, therefore other things being equal their prospect of life became better the mortality rate did not fall, but from 1915 on practically reached the infantile mortality rate and even exceeded that of 1918 In normal times the mortality of the children from 2 to 5 years old was not half as great as that of infants When the statistic are examined, it is seen that the increased number of deaths are not referred to the infectious complaints but to inflammation of the lungs but in reality the increase of deaths of rachitic children was the result of respiratory insufficiency or inflammation of the lungs and which makes it probable that the high mortality of little children is really to be ascribed to rickets

Schick Reaction for Determination of Susceptibility to Diphtheria—In Leete s experience the Schick test appears to be of definite value in detecting diphtheria susceptibles and as such has many possible applications It is easy to perform and free from any danger A reliable toxin and careful technic are essential Once the difference between a positive and a pseudoreaction are appreciated reading is easy but if there is any doubt controls of heated toxin should be used The best times for reading are twenty-four hours three days and ten days after the test

Medical Journal of Australia, Sydney

Dec 1 1919 2 No 24

Bacteriology of Influenzal Pneumonia A H Tabbutt—p 499
*Case for Diagnosis (Thomsen Disease?) A W Campbell—p 506

Thomsen's Disease?—Campbell reports the case of a man aged 27 years who for ten or eleven years had shown apparently remarkable muscular development but whose real *muscular power was slight and subject to easy fatigue whose* every movement was hampered and impeded by intention rigidity' and tendency to tonic contraction and whose muscles were unduly firm in relaxation and show an alteration of electrical excitability suggesting the myotonic reaction In these respects the clinical picture fitted Thomsen s disease It was incomplete however inasmuch as the marks of familial and congenital origin were wanting

Dec 20 1919 2 No 25

Antimalarial Work with Australian Mounted Division in Palestine Its Relation to the Same Problem in Australia W Evans—p 526
Three Cases of Bilharziasis Treated with Tartar Emetic N H Fairley—p 529

Dec 27 1919 2 No 26

Interaction between War Profession of Medicine and Practitioner R S Skirving—p 548
*Brain Weight in Congenital Mental Deficiency W A Lind—p 551

Jan 3 1920 1 No 1

Results and Treatment of Suspensory Apparatus of Female Pelvic Organs T G Wilson—p 2
Abolition of Drainage Tube in Operative Treatment of Hydatid Cyst W I Stewart.—p 6

Brain Weight in Congenital Mental Deficiency—The figures presented by Lind show that whatever significance the brain weight may have in the sane it possesses no indicative value when applied to those born insane who had brain weights ranging in this series from 115 to 1 680 gm The weights recorded are those of the brains of 142 congenital mental deficients

Journal of State Medicine, London

January 1920 28 No 1

Influence of Town Planning on Tuberculosis P Abercrombie—p 1
Tuberculosis Colonies and Their Management L C Varrier Jones—p 12

Naval Medical Association Bulletin, Tokyo

October 1919 No 26

Mucor Isolated from Feces of Beriberi Patient S Kiyosaki—p 1
*Quantity of Diastase in Normal Urine E Saigusa—p 1

Mucor Isolated from Feces of Beriberi Patients—Kiyosaki examined the feces of thirty beriberi patients In ten instances he found the identical mucor Injected into frogs pigeons guinea-pigs and rats it caused toxic effects producing especially in frogs symptoms resembling motor paralysis

Quantity of Diastase in Normal Urine—The urine of 114 persons was examined by Saigusa by the one half hour method of Noguchi and Wohlgemuth The quantity of diastase thus determined varied from 8 to 64 in the majority of cases ranging from 16 to 32 It had to a certain extent a relation to the specific gravity of the urine The starch paste used by Saigusa in his experiments was prepared from official potato starch by heating it for a certain time to destroy amylopectin contained in it and then passing it through a filter The author claims that this starch paste could well take the part played by the soluble starch of Kahlbaum in this experiment

Sei-I-Kwai Medical Journal, Tokyo

August September 1919 **38,** Nos 8 9

*Perfusions of Respiratory Center in Turtles Effect of Calcium, Potassium Chlorid and Magnesium Chlorid K Tsugane—p 37
Cardio inhibitory Action of Magnesium Chlorid on Turtles K Tsugane—p 39
Infantile Scarlet Fever T Nomura—p 40

Effect of Calcium, Potassium Chlorid and Magnesium Chlorid on Respiratory Center—*Perfusing* the respiratory center of a turtle with a mixture of sodium and calcium, or sodium and potassium salts, and also magnesium, only showed that the effective action of the respiratory center was greatly increased but if a physiologic quanity of potassium salts was added to an isotonic sodium chlorid solution and this mixture was perfused, examination of the respiratory center did not reveal an increased effectiveness In thirteen cases comparison was made with the 0 7 per cent magnesium chlorid solution There was immediately quickening of rhythm in the heart but the same experiments howed that the application of magnesium chlorid solution to the respiratory center causes immediately abolition of the functions of the medullary center

Annales de Medecine, Paris

December 1919 **6,** No 5

Meningococcemia P Ribierre I Hebert and M Bloch—p 341
Meningeal Reactions with Uremia H Roger—p 369
Periodic Paralysis G Guillain and J A Barre—p 386
Experimental and Critical Research on Pneumothorax L Rist and A Strohl—p 393
Recent Literature on the Pathology of the Ramifications of the Bundle of His C Esmein—p 415

Meningococcemia Without Meningeal Symptoms—Ribierre and his co-workers state that they have recently encountered several cases of prolonged intermittent fever for which the meningococcus was responsible Five complete case reports are given and two others without bacteriologic control The chills and fever are of the malarial type, eruptions are constant as also pains in muscles and joints during the febrile periods frequently accompanied by redness and swelling around the joints In nearly every case the cocci finally invade the meninges, the tardy meningitis in some cases first giving the clue to the nature of the disease In three of the cases reported the interval was one two and three months from the first symptoms but intraspinal serotherapy then proved promptly effectual and cured at the same time the general infection Lumbar puncture long before had yielded a limpid and sterile fluid, but it contained 0 3 or 0 4 per cent albumin with moderate leukocytosis and abnormally large proportions of polynuclears *The fluid was also of this type* in another case in which the meninges seemed to escape entirely, *although the febrile meningococcemia* persisted for four months The cocci were isolated from the rhinopharynx as well as from the blood and the onset of the disease was that of frank septicemia There was no epidemic at the time the cases occurring between November and April In one of the two fatal cases there was tardy localization of the meningococci in the endocardium The eruptions may be purpuric papulous or nodular The experiences related emphasize the importance of identifying the exact strain of meningococci involved, and giving this specific serotherapy, using a polyvalent serum until this is possible In these cases scarcely any benefit was apparent *from the antiserum* until the strictly specific antiserum was used They advise five injections at twenty-four hours intervals, alternately subcutaneous and intramuscular, if improvement is not observed in the following days, they give it by the vein and in case this fails, inject it into the spinal cavity, regardless of *whether there* are meningeal symptoms or not The patient should be kept under observation for at least a month after the supposed cure as there may be a tardy relapse The nasopharynx should be examined for meningococci and if found, the antiserum in powder form should be insufflated In one of the cases, treatment was *with* neo-arsphenamin by the vein, with recovery after 1 65 gm had thus been injected in the course of a month The Wassermann test was negative No benefit from this drug was apparent, however, in any of the other cases In rebellious cases others have reported good results with autovaccines and revulsion by a turpentine abscess

Uremic Meningeal Reactions—Roger presents evidence to show that the meningeal *reactions* which develop in the course of uremia do not seem to be directly caused by the retention of nitrogen They are usually the *results of intercurrent* cerebral complications, hemorrhage and softening, for which the kidney sclerosis is only indirectly responsible Cerebral hemorrhage was found by Frerichs in 11 of 292 uremia cadavers, and 3 in 112 by Rosenstein Canti has recently published 3 cases of cerebral hemorrhage or softening with azotemia of 0 9 to 1 5 gm per liter Meningeal hemorrhage is not exceptional with chronic kidney disease The latter raises the blood pressure until some vessel ruptures This explanation of the meningeal reactions in uremia as mechanical rather than toxic, would be verified oftener if the cerebrospinal fluid was examined more carefully at necropsies Slight xanthrochromia may escape detection unless the tube is inspected lengthwise, but this proves the presence of blood thus adding a fourth type to the *three biologic types of uremic meningeal reactions, those* with hyperalbuminosis, those presenting *merely* hypercytosis, *or both combined* Acute *infectious meningitis in* a patient with uremia is often mistaken for uremic meningitis The pneumococcus is usually involved, but syphilis and tuberculosis may likewise be responsible In one such case, with positive Wassermann reaction, the convulsions subsided after lumbar puncture but the headache and torpor did not improve until under treatment for syphilis When the uremia alone can be incriminated for the meningitis or meningeal condition, the spinal fluid may show merely cytologic and chemical reactions without clinical manifestations or these reactions may be encountered in the course of neuro-uremia febrile or not with headache vomiting, convulsions stiffness of the back of the neck, Kernig sign and contracture of the spine But Roger insists that most of these symptoms are the work of the azotemia rather than any special injury of the meninges The urea poisons the cortex He had one case in which extreme retention of sodium chlorid alone without uremia was responsible for convulsions, etc To prove the various points in his article *he cites numerous concrete examples from his own and others' experiences*

Periodic Paralysis—*Guillain and Barre* report the case of a soldier of 36 who had paralysis of the arms come on nearly every *night about 2 There is no pain* and *no* paresthesia but the patient is unable to lift even the bed clothes By 7 or 8 the paralysis passes off, and his muscles keep normal during the day Only occasionally, when writing, he has to stop as his arms and legs feel heavy but walking around a bit restores normal conditions He has noted symptoms of the kind for sixteen years, but the actual paralysis did not develop until in the trenches in 1915 The attacks of paralysis vary widely in intensity, and during the severer ones the electric excitability of the muscles and nerves disappears completely The muscles *innervated by the cranial nerves never showed a trace* of paralysis during the several months the man was under observation The tendon reflexes disappeared during the severer attacks but the skin reflexes showed no modifications and there never were any sensory disturbances There was no history of malaria and although the Wassermann reaction was positive in the blood on two occasions they are inclined to doubt its pathogenic importance here The spinal fluid shows no sign of neurosyphilis and no benefit was realized with tentative specific treatment nor *from strychnin,* epinephrin, camphor, repose etc There seems to be some *intermittent intoxication, some poisons* of unknown origin accumulating during the intervals and then acting on certain peculiarly susceptible nerves

Capacity of the Pleural Cavity—Rist and Strohl comment on the extreme variability of the curves when the quantities of gas introduced into the pleura for artificial pneumothorax are compared with the corresponding intrapleural pressure as abscissa and ordinate The variability depends on the elasticity of the lung permitting the spreading apart of the sheets of the pleura A sudden drop in the pressure curve is a sign of sudden increase in the capacity of the pleura entailed by the breaking of adhesions The pleural cavity is not a space with rigid walls

Presse Medicale, Paris

Dec 27 1919 27, No 80

*Inaugural Lecture of Operations and Apparatus Course P Duval —p 801
*Aspiration during Operations H L Rocher —p 806
Anatomy of Snapping Hip A Mariau —p 807
*By Effect with Mercuric Cyanid L Renard —p 808

French Surgery During the War—In the course of this opening-lecture of the "operations and apparatus course," Duval says of the Carrel method that it represented immense progress at the time of its introduction restoring confidence when despair at the impotence of surgery was almost universal But the Carrel method is based on two errors, the assumption that a wound after it has been cleared of devitalized tissues requires disinfection in reality the sound tissues are perfectly competent to cope with the few microbes left, provided—and this was Carrel s second mistake—that there are no streptococci in the wound He merely counted the bacteria, paying no heed to the species It was Henri Gaudier, he says, who blazed the way for the successful treatment of war wounds, proclaiming that all devitalized tissue must be cleared out, but that when this was done then the wound could be safely sutured Tissier showed that this was true only in the absence of the streptococcus, by excluding or waiting for the disappearance of the streptococcus then wounds can be confidently sutured To France Duval reiterates belongs the honor of discovering the importance of the biology of the wound the toxicity of crushed devitalized tissues, the excision of all such and the primary suture at once or a few days later when the wound has been cleared out and absolutely protected against contamination The French also proclaimed that wounds anywhere in the body even in the lungs, should all be treated on these same principles

Illumination and Aspiration During Operations—Rocher expatiates on the importance of a forehead electric light for all operating on cavities, and the importance of continuous vacuum aspiration during operations with which hemorrhage is liable He uses for the purpose an electric pump designed for compressing air for therapeutic hot air jets He holds the aspirating cannula in his left hand sucking up with it all blood, pus, and other secretions while the right hand wields the curet or other instrument, or an assistant manages the vacuum aspiration Several cannulas are kept ready in case one gets blocked He has found this aspiration cleansing of the wound especially useful in operations on bones on the face and jaws and on the throat and palate A minor advantage of the aspiration is that it materially reduces the number of sponges needed at operations

Mercuric Cyanid by the Vein—Renard calls attention to the subjective odor of bitter almonds which is sometimes experienced as mercuric cyanid is given by the vein He now warns patients to expect it

Jan 3 1920 28 No 1

*Esthetic Laparotomy Incision F Jayle —p 1
Advantages of Filiform Drainage for Chancroidal Bubo A. Floquet —p 5

Esthetic Gynecologic Incision—Jayle expatiates on the advantages of a small transverse incision to one side of the median line, for access to the adnexa on one side and for removal of the "cold' appendix under general anesthesia He gives twenty-four views of the various steps of the operation It takes a little longer than with a larger incision and the surgeon has to work with fingers and forceps and cannot introduce his hand But the lack of a disfiguring scar and the advantage for the patient of this reduction to the minimum of intraperitoneal manipulations counterbalance this He has been able to resect the tube from the other side as well without enlarging the incision and even to resect nine tenths of the other ovary

Progres Medical, Paris

Dec 27 1919 34 No 52

The Three Forms of Shock Nervous Hemorrhagic and Toxic R Dupont —p 519
General Etiology of Dyspepsias F Ramond —p 521

Correspondenz-Blatt fur Schweizer Aerzte, Basel

Dec 25 1919 49 No 52

Precipitation Serologic Test for Syphilis B Galli Valerio —p 1977
*Volvulus as Complication of Appendicectomy G Dardel —p 1980
*Gap in Transverse Mesocolon Stocker Dreyer —p 1985
Venereal Disease in Swiss Army W R Schnyder —p 1988 Conc n

Precipitation Test for Syphilis—Galli-Valerio declares that his findings in 241 cases confirmed the great value of Sachs-Georgi precipitation test with cholesterolized organ extracts in the serodiagnosis of syphilis As the technic is improved he thinks it will supersede the Wassermann test almost completely as it is so simple and easy The findings paralleled those of the Wassermann test in 77 59 per cent and in some of the discordant cases the effect of treatment had modified the response The organ extract is made with 100 c c of an alcoholic extract of beef heart (1 gm of heart to 5 c c of alcohol) 200 c c of alcohol and 13 5 c c of a 1 per cent alcoholic solution of cholesterol When ready to use one part of this extract is mixed with one part of 0 85 per cent physiologic solution agitated and four parts of the latter are added The serums to be tested should be fresh and clear and should be inactivated by heating for half an hour at 55 or 56 C To 1 c c of the serum to be examined diluted ten times with the 0 85 per cent saline is added 0 5 c c of the extract diluted as stated above The whole is well mixed and incubated at 37 C for two hours and then kept for twenty twenty-four forty eight hours at room temperature after which the findings are recorded Meyer suggests that the interval can be shortened by centrifuging the tubes after three or four hours incubation The flocculation and precipitation can be estimated by placing the tubes slanting on the black background of a Leitz dissection microscope and examining with a No 8 glass This renders an agglutinoscope unnecessary

Volvulus as Complication of Appendicectomy—Dardel removed the appendix in a girl of 8 with threatening symptoms but the peritoneum was found intact The appendicitis was of the so called catarrhal type There were no adhesions but four weeks later the last loop of the ileum became twisted and gangrenous All the cases on record of post appendicectomy volvulus with gangrenous loop terminated fatally with one exception besides the case here reported The diagnosis in this case was unmistakable but the general condition was so good that the child was kept under observation for several hours The circumstance that in seventeen hours the bowel was found gangrenous and on the point of rupture emphasizes anew the danger of delay The case teaches he says the inadvisability of removing the appendix for purely prophylactic purposes and it also teaches that when abdominal disturbance follows appendicectomy it should not be ascribed as a matter of course to errors in diet The earlier the diagnosis the better the outlook for these tardy complications of appendicectomy

Gap in Transverse Mesocolon—The retrospective diagnosis was that an old gastric ulcer had in time entailed stenosis of the pylorus and adhesions to the pancreas and the mesocolon The traction on the latter had caused it to atrophy and in lifting a basket of washing a sudden violent pain gave notice of a tear in the mesocolon A loop of intestine slipped at times through the gap with transient occlusion but this spontaneously corrected itself several times The opening was large enough for the circulation in the loop to proceed unhindered for a time Conditions gradually became aggravated but after a gastro enterostomy and suture of the gap in the, mesentery the extremely emaciated patient recovered and has called her health perfect during the nine years since

Chirurgia degli Organi di Movimento, Bologna

December 1919 3, No 5 6

Collateral Circulation in the Limbs G Bolognesi —p 413
*Hernia of Muscle G Ferrarini —p 455
*Deformity of Shoulder Resembling Coxa Vara F Angeletti —p 513
Trophic Changes in Amputation Stumps 650 Cases F Delitala —p 535
*Tuberculous Process in Hip Joint and Congenital Luxation U Cesarano —p 549
Ligation of Femoral Artery for Aneurysm B Nigrisoli —p 561
Treatment of War Wounds of Joints F Caccia —p 562
Case of High Scapula I Putzu —p 578
*Cast for Fractured Humerus, Immobilizing the Shoulder D Taddei —p 587
*Prosthetic Appliances, Especially for the Arm A Serra —p 593

Development of Collateral Circulation —Bolognesi reviews what has been written on this subject in recent years and the experimental research in Italy by Porta, Talma, Stefani, Orecchia and Fichera since 1845 He then gives the roentgen findings in the circulation in six dogs killed from four to ninety days after ligation of the external iliac artery The abdominal aorta was injected with a contrast suspension of 60 parts minium in 60 parts liquid petrolatum and 30 parts oil of turpentine In comparison with the intact side, all the vessels below the ligature were found larger and they had more ramifications The direct lateral circulation was insignificant and of tardy development while the indirect lateral circulation developed to a remarkable extent bridging the gap in the artery His illustrations show this bundle of bridging vessels numbering twenty-seven in one of the dogs and a still larger number in another The ligated artery in one finally regained partial permeability The entire circulatory tree had increased generally in size below the ligature ensuring resumption of arterial circulation in an almost perfect manner Persons with a particularly well developed sciatic artery seem to be more liable to develop satisfactory collateral circulation after ligation of the external iliac, as conditions thus resemble more closely the conditions in the dogs in his experiments

Hernia of Muscle —Ferrarini analyzes the extensive international literature on hernia of muscle and describes his own experimental research on myocele and a personal clinical case in which the tumor in the thigh had been noted for seven years There had been some pain at first after a sudden muscular strain which had evidently caused the hernia Later the tumor was tender but the man paid no attention to it until he noticed that it seemed to be growing larger An operation was done on the assumption of a lipoma but the tumor proved to be the belly of the rectus muscle Some of the fibers had been torn across and had retracted and a cyst had formed in the gap The clinical picture therefore of a myocele may differ widely according to the pathologic conditions encountered and the site

Varus Deformity of the Shoulder —Angeletti discusses the findings in five clinical cases and some anatomic specimens in which there was deformity of the shoulder corresponding *to coxa vara* in the hip joint It was of traumatic inflammatory or rachitic origin or occurred in a cretin or from chondrodystrophy The roentgen findings in his clinical cases are reproduced

Congenital Dislocation of Hip Joint and Tuberculosis —Cesarano relates that among the 2 000 cases of congenital luxation of the hip joint at the Rizzoli Institute there were two cases in which the operation for correction of the deformity, or casual trauma was followed by rapid development of a tuberculous process in the joint although there had been nothing to suggest tuberculosis in the child before In one, the deformity was bilateral but the right joint had required more forcible and repeated correction, and the tuberculous process developed in this joint The child came from a tuberculous family but roentgenography had shown apparently normal conditions before the intervention The process had developed in the older child after a trauma nine years subsequent to the correction of the deformity Only a few such instances are on record, he *says, and the* fact that tuberculous processes only exceptionally follow the stress of correction of congenital luxation of the hip joint, testifies anew that trauma alone is not able to induce a tuberculous process *in a healthy subject With inherited or* acquired taints, even slight trauma, even any transient overuse of the part or *prolonged morbid congestion may be* enough to induce the localization of a tuberculous lesion

Plaster Cast for Immobilization of the Shoulder —Taddei extols the advantages of the right-angled or square plaster frame which holds the arm on a level with the shoulder, the forearm on the same level or sloping downward The findings after healing show fine anatomic, functional and radioscopic results The patients do not object to the square frame after the first

Artificial Hands and Arms —Serra discusses what has been done in the line of prosthetic appliances in Italy and elsewhere in the last two or three years, giving forty-three illustrations and the indications for the different types of artificial limbs and working hands

Policlinico, Rome

Dec 7 1919 26 No 49

Symptomatology of Meningitis E Fossatara —p 1445
*Sterility A Brun —p 1449
Quinin in the Prophylaxis of Malaria F Paoletti —p 1458
Income Limit for State Insurance against Sickness L Verney —p 1469

Symptoms of Meningitis —Fossataro reports the case of a man of 37 who suddenly began to cough and expectorate, with fever headache and vomiting Rales were found at the base of the right lung and the back of the neck was stiff The meningococci found in the spinal fluid had evidently invaded the lungs and cerebral meninges simultaneously, the course was distinguished by torpor throughout, the man dying the third month The spinal meninges did not seem to have been affected The loss of balance and tendency to fall had suggested a tumor in the cerebellum but vision was normal except for strabismus The torpor was evidently the result of the hydrocephalus in the ventricles which was also responsible for the lack of control of the sphincters Necropsy revealed merely purulent leptomeningitis of the lower surface of the cerebellum with hydrocephalus ventricular and also intermeningeal, at the base of the brain

Causes of Sterility —Brun analyzes 300 cases of sterility in women from his practice at Trieste In 230 cases the women had never conceived, in seventy cases the women had already gone through an abortion or pregnancy His experience confirms anew the importance of patience and *perseverance in measures to correct the congenital or* acquired defects impeding conception The genitals were apparently normal in thirteen of the 230 cases of primary sterility, in 107 there were congenital defects in 102 inflammatory processes were responsible, and fibroma in eight

Dec 14 1919 26, No 50

Atypical Forms of Typhoid Fever E Mondolfo —p 1475
*Bacteriologic Diagnosis of Shiga Dysentery A Petrucci —p 1483
Stab Wound of Gravid Uterus P de Tommasi —p 1486
The Housing Problem A Filippini —p 1487

Stab Wound of Gravid Uterus —The woman was at the eighth month when a stab wound pierced the wall of the uterus and amniotic fluid escaped The laparotomy showed *the fetus visible through the 3 or 4 cm wound* De Tommasi merely sutured the wound and in a few days the woman was delivered of a healthy child and left the hospital in good condition Delivery was hastened with forceps, to avoid too much strain on the recent sutures

October 1919 26, Surgical Section No 10

Traumatic Aneurysm of the Limbs T Laurenti —p 313
Cinematization of the Jaw R Avanzi —p 330
Critical Review of Treatment of Compound Fractures from War Wounds R Bompiani —p 336 Conc n

Cinematization of the Jaw —Avanzi relates that Pellegrini, *in discussing motor plastic amputations recently*, suggested that it might be possible to form loops in the muscles after amputation of the lower jaw which might serve for vitalization of the prosthesis as after motor plastic amputations of the leg Avanzi reviews the various elements that would be necessary for such intervention, and especially the cooperation of the surgeon and the mechanic or, better yet, the double training in one person

December 1919 26 Medical Section No 12

- *Serodiagnosis of Echinococcus Disease A Gasbarrini —p 441
- *Rhizomelic Spondylosis and Osteomalacia N Pende —p 446
- *Spontaneous Nystagmus G Bilancioni and A Romagna Manoia —p 461

Serum Test for Echinococcus Disease—Gasbarrini applied the test by the intradermal technic and obtained a positive response in all his twelve cases of hydatid cyst except in one case in which the cyst had suppurated and thus had ceased to be "active ' He commends the ease and harmlessness of the test It is made with serum from bovine hydatid cysts, filtered, after addition of one drop of phenol to 20 c c of the fluid it is set on ice It keeps active for about a month Giani obtained satisfactory results also with the Abderhalden test applied to human and bovine serum from subjects with echinococcus disease and it was positive in seven of Gasbarrini s twelve cases After surgical intervention the intradermal reaction veers to negative

Rhizomelic Spondylosis and Osteomalacia—Pende gives an illustrated description of a case of this combination in a woman of 48 who had had several attacks of articular rheumatism in the last eighteen years Nothing can be found to indicate any special endocrine disturbance The associated osteomalacia throws light on the etiology of the rhizomelic spondylosis, as it suggests a common origin in a trophoneurosis of bones and joints It is localized in this case in the inferior cervical and the lumbosacral metameres and the adjoining joints and corresponding joints in the limbs The prevailing views on spondylosis are analyzed and compared

Spontaneous Nystagmus—The present status of our knowledge on this subject is presented by Bilancioni and Manoia who noted spontaneous nystagmus in 150 of 3 000 aviation candidates There was nothing otherwise to suggest pathologic conditions in the labyrinth, but there were always signs of functional disturbance in the nervous system exaggerated reflexes, dermographism tremor etc Many were accepted and passed satisfactorily through the course of training The details are given of 4 cases of pure spontaneous nystagmus and of 8 with heart kidney or nervous disturbances, also in 2 cases after a fall while flying, and in 2 cases in which there was a history of an old healed otitis media In 3 others the tests revealed abnormally long reaction to visual and auditory stimuli They take up in turn the various hypotheses advanced to explain nystagmus Their conclusion is in favor of some causal functional disturbance in the centers which control the movements of the eyes, this disturbance being probably of embryonal origin and located in the center itself or the cortex or connecting nerve fibers and consisting in the lack of normal balance between the acting and antagonist elements The nystagmus occurred only when the eyeballs were rotated to the farthest limit

Cronica Medica, Lima, Peru

September 1919 36 No 675

- *Treatment of Trigeminal Neuralgia M Sixto Chavez —p 299
- *The Psychology of Insanity H F Delgado —p 316
- *Emergency Splenectomy for Rupture E P Manchego —p 327

Trigeminal Neuralgia—Chavez reviews the broad field of measures that have been recommended for treatment of trigeminal neuralgia for which no cause can be discovered In one case he cured supra-orbital neuralgia of three months standing in a student by application of electricity but the interval since has not been very long He cites A Courcelle s success in treating neuralgia by subcutaneous injection of air (1905) but this can scarcely be applied in treatment of the trigeminal form on account of the resulting disfigurement in the face Pitres of Bordeaux was the first to inject alcohol in treatment of facial neuralgia (1902), and this has now an extensive literature in all countries At the best however, its effect does not last more than nine months Chavez reports a case in which the trigeminal neuralgia was not modified in the least by the neurolytic injections of alcohol nor by partial resections of the nerve This patient was a man of 50 and the neuralgia dated from 1910, although there had been occasionally mild neuralgic pains above the orbit from the age of 23 Year after year the whole array of treatment was applied in turn, including resection of the supra-orbital nerve Retrogasserian neurotomy is the only resource now in this case and he gives the minute details of the technic for this and the comments of various authors on this section of the sensory root of the nerve by Frazier's technic (Published in The Journal May 11 1918 p 1345) Chavez describes further a case in which this operation was attempted for neuralgia of ten years' standing, refractory to all other measures In detaching the meningeal artery from the base of the skull there was severe hemorrhage which was arrested by ligating the middle meningeal artery So much blood had been lost and the general condition was so bad in the woman of 62 that the operation was suspended the patient dying six hours later In another case the woman of 50 had continued to suffer from the neuralgia after resection of the ophthalmic and the superior and inferior maxillary nerves and finally the gasserian ganglion was resected (Dr de la Puente July, 1917) the first operation of the kind in Peru The patient died from hemorrhage after the gasserectomy

Psychology of Insanity—Delgado remarks that experience has shown the important part played by moral factors in the development of mental derangement, in fact, he deems this the principal factor The new psychiatry he declares, is based on psychology while the textbooks and medical schools lead the student only a few steps into the vast field of psychologic processes Psychanalysis reveals that mental derangement may be caused by factors of a moral order, moral conflicts and that the hallucinations, gestures and attitudes of the insane are all important clues for the psychologist revelations of profound and vital significance for treatment Of course every psychic process has its molecular concomitant but Delgado reiterates anew 'the priority of the function—the conception which is rejuvenating medicine in all its branches now ' 'Modern endocrinology is also demonstrating the connection between the psychologic activity and the somatic activity and the influence of one on the other Psychanalysis has further shown the importance of organic inferiorities as factors in the psychogenesis of neuroses and psychoses and in the physiologic estimation of the processes resulting from undrained emotions "

Emergency Splenectomy—Manchego removed the spleen of a boy of 14 on account of rupture and hemorrhage from a fall The spleen was much enlarged from malaria, measuring 11 by 7 by 17 cm and the tear was 8 cm deep Splenectomy is a comparatively common operation in Peru In the case reported the liver began to enlarge the fourth day after the operation If the tear in the spleen had been lower down instead of in the upper pole the boy would probably have bled to death before he reached the hospital

Semana Medica, Buenos Aires

Oct 30 1919 26 No 44

- Proposed Reforms in Medical Course P J Garcia —p 509
- *Extremely Diluted Tuberculin in Treatment of Tuberculosis F Gomez Alvarez —p 516
- Origin of Univitelline Twins M Fernandez —p 527
- *Roentgen Treatment of Bone and Joint Tuberculosis in Children R F pinola —p 533

Tuberculin Prophylaxis and Treatment of Tuberculosis—In this third instalment of his report Gomez gives the details of ten cases of pulmonary tuberculosis systematically treated by the method of extreme dilution of the tuberculin The bases for this treatment have already been summarized in these columns as for instance Feb 23 1918 p 579 All Gomez patients seem to be clinically cured at present

Roentgen Treatment of Tuberculous Bone and Joint Disease—Espinola declares that roentgen treatment is the best of all measures in surgical tuberculosis especially in cities Surgical measures should be only secondarily considered His experience with it has been very favorable especially when the effect can be supplemented [illegible] mountain or seaside climate

Siglo Medico, Madrid

Dec 13, 1919, 66, No 3444

*Emotion Ramón Turro—p 1073
Personal Prophylaxis of Venereal Disease E Mañueco Villapadierna—p 1076
Treatment of Gonorrhea in the Female Sicilia—p 1079
Vaccine or Tuberculin Treatment of Tuberculosis? R Villegas—p 1080

Emotions and Endocrinology—Turro explains the psychic by the physiologic basis on which it rests, not the physiologic by the psychic, as is the general rule Achucarro s assertions in regard to an internal secretion of the neuroglia and Marañon's demonstration that the brain can influence the vegetative life in two ways, by both nerves and blood, have thrown much light on the question of emotions Marañon has demonstrated that it is possible to induce all the phenomena of fright such as pallor dilatation of the pupils acceleration of the heart beat, goose flesh, sweating etc, without the intervention of the brain, merely by injection of epinephrin in the artificially hyperthyroidized or in subjects with latent hyperthyroidism

Mitteilungen a d med Fak d kais Univ, Tokyo

Dec 28 1918 20 No 4 Recd Dec 1919

Physiologic Actions of Fish Poison Fugutoxin F Ishihara—p 375
The Albumin in Horse Serum before and after Immunization with Diphtheria Toxin K Sakaguchi L Hayashi and B Tanabe—p 427
*Research on Diabetes II III and IV K Sakaguchi—p 439

Research on Diabetes—Sakaguchi presents here his second, third and fourth reports on his exhaustive study of various features of diabetes In the second he discusses why the tolerance of diabetics is the lowest at breakfast and the elimination of sugar the highest after this meal His conclusion is that this is due to the fact that the production of glycogen is less after breakfast than at other meals The elimination of sugar after breakfast can be reduced by giving a little carbohydrate or meat an hour or two before the breakfast He states further that carbohydrates to the limit of tolerance are borne better if taken four or five hours after the preceding meal When the interval is six hours or more, the glycosuria may be increased

In his third communication he presents clinical evidence to show the injurious action of emotional stress on the sugar content of the blood while brain work without emotional disturbance, does not modify the glycemia In the three cases described, the sugar content of the blood was determined before and after the patients had been informed of the serious nature of their disease Diabetics should avoid occupations he suggests that entail worry or excitement

The fourth communication discusses the influence of intake of albumin on the sugar content of the blood As the considerable rise in the sugar content reaches its highest point in from two to four hours after eating meat it seems to be due to the products of digestion in the small intestine rather than to the products of putrefaction of albumin in the large intestine

Deutsche Zeitschrift fur Chirurgie, Leipzig

February 1919 148 No 5 6

*Differential Diagnosis of Gas Gangrene Stemmler—p 289
Prophylaxis of Gas Infection Remmet—p 325
*Ligation of Femoral Vein in Treatment of Infected Wounds Below J Ritter v Winiwarter—p 333
Gluteal Aneurysms F Krische—p 352 Id Goldammer—p 374
*Goiter Operations O Orth—p 360
*Covering Defects by Temporarily Suturing to Other Limb J F S Esser—p 385
Chronic Gastric and Duodenal Ulcer A Troell—p 404 Cont d

Differential Diagnosis of Gas Gangrene—Stemmler emphasizes that there can be no hope of successful serotherapy of gas gangrene until we learn to differentiate it Various kinds of lesions are now grouped under this heading Typical gas gangrene is a general intoxication from infection of muscle tissue by anaerobic bacteria, the muscle tissue is destroyed by ischemia, never by putrefaction, as gas gangrene is not a putrefaction process, and should never be classed with such There are two forms of typical gas gangrene, the bronze phlegmon and the epifascial form Malignant edema belongs in this category of inflammation from gas and edema-forming bacteria, although it is not of the true gangrene type The two other categories of wound infection are inflammation from the pus formers and inflammation from the putrefaction producers with formation of gas

Stasis Hyperemia by Ligation of Femoral Vein—Von Winiwarter was unable to obtain reliable results with a constricting band to the thigh in treatment of suppuration in the knee joint, and hence he resorted to ligation of the femoral vein, and reports encouraging results and knows of similar experiences in other hospitals As the outcome thus surpassed expectations in these severe cases, he is inclined to extend the field of this procedure and advocate ligation of the femoral artery whenever the fever keeps up for several days after the surgical toilet of the injured knee, and pus is found in the joint It may be possible by this means to arrest the inflammation and the lesion may heal without loss of function As ligation of the femoral vein is a simple and harmless procedure it is justified, he thinks, in every case of severe infectious processes on the legs, in or outside of the knee He urges others to give the method a trial, citing the details of his eighteen cases All were war wounds He applies the stout silk ligature to the vein just below Poupart's ligament, sometimes ligating another large vein besides the femoral The cyanotic appearance has usually subsided by the next day but the stasis edema persists The relief from pain was striking and even the change of dressings was not painful The general condition improves not only from the relief from the pain but from the shutting off of the septic products from the general circulation

Goiter Operations—Orth reviews his experience with 300 goiter operations, the mortality was 0 17 per cent A number of cases showed the close correlation between the various endocrine glands which surgeons have to bear in mind, for instance one woman first developed goiter after splenectomy In another woman the goiter developed at once after removal of a myoma while Wettergreen has witnessed the subsidence of a myoma as exophthalmic goiter developed Several have reported increase in the size of the thyroid after removal of both ovaries, and Orth had a case in which the woman aborted three days after resection of the thyroid Such happenings show the necessity for investigation of the genital organs before operating for goiter In three cases a moderate form of tuberculosis seemed to be whipped up by removal of a goiter which had been compressing the trachea and the patients soon died Clairmont has reported some similar experiences with tuberculous patients The blood pressure was high in 70 per cent of Orth's cases, and after the thyroidectomy it dropped below normal, but gradually righted itself in a few weeks No change in the coagulation of the blood was apparent Transient albuminuria was evident in ten cases after the operation not before One patient had a spontaneous fracture of the femur a year after resection of the thyroid and she died in six weeks Orth is inclined to ascribe this fragility of the bones to abnormal conditions such as are observed in the bones of thyroidectomized dogs The displacement of the trachea should be determined with radioscopy before the intervention as a guide to the operation His only recurrences were in the four cases in which radioscopy had been neglected and the protrusion of the goiter in the depths was not fully appreciated He had fatal hemorrhage or embolism in two malignant cases, and in one case the esophagus was injured during the operation as also the trachea in another, but both healed without mishap after suture Anomalies in the vessels were not infrequent, and this possibility should never be forgotten In conclusion he warns of the necessity for caution in using disinfectants in this region, some have witnessed the flaring up of latent hyperthyroidism after application of iodized dressings, etc Another danger from them is the effect on the vocal cords, similar to Cisler's experience with dogs, the vocal cords kept in the cadaver position when their innervation had been cauterized with silver nitrate After thyroidectomy the vocal cords are liable to keep in the median position for a long time before they resume normal movements, and any chemicals in the vicinity might exaggerate this

Plastic Repair of Defects by "Suturing In"—Esser has been very successful with pedunculated flaps from the sound leg in operating on suppurating lesions that refuse to heal When this technic is not applicable, he applies what he calls *Einnahen* suturing the freshened defect after excision of scar tissue, to some point on the sound leg After it has grown to the sound tissues he cuts out one or two flaps and sutures the other edges to the defect He gives illustrations of several particularly severe cases that healed under this suturing in" procedure None of the patients died

Deutsche medizinische Wochenschrift, Berlin

Oct 23 1919 **45**, No 43

The Restoration of the German Population A Gottstein —p 1177
*Induced Pneumothorax in Lung Disease K Henius —p 1178
Endemic of Friedlander Bacillus Pneumonia Zander —p 1180'
Glucose Injections in Heart Disease W Pfalz —p 1181
Progressive Paralysis A Jakob —p 1183
Phototherapy in Lupus Dora Gerson —p 1187
Epidemic of Microsporia W Klehmet —p 1188
Infectiousness of Latent Syphilis W Gartner —p 1189
Upward Displacement of the Diaphragm C Schwenke —p 1191
*Myocarditis from Illuminating Gas Poisoning E Liebmann —p 1192
End Results of the Friedmann Treatment of Tuberculosis R Muhsam and E Hayward —p 1193
To Remedy Scarcity of Gas in Laboratories and Hospitals H Reiter —p 1194
Proposed Reforms in Medical Course J Schwalbe —p 1196 Cont'n

Induced Pneumothorax in Lung Disease—That indeed pneumothorax marks a distinct advance in the treatment of tuberculosis is the conviction reached by Henius after using it in twenty-four cases He gives his indications for induced pneumothorax as follows (1) unilateral tuberculosis with cavity formations, even though the other side shows a mild tuberculous infection provided it is not progressive, (2) unilateral infiltrating inflammatory processes (3) unilateral, cheesy pleuropneumonia, (4) hemoptysis, if the side that is bleeding can be ascertained, (5) pleuritis with much effusion replacing the fluid with air, and (6) a short trial in cases of unilateral, multiple bronchiectatic areas and a central lung abscess Henius ascribes the good effects of pneumothorax not to the rest that the lung gets from collapse, but to lymph stasis and to hyperemia which in turn induce renewed growth of connective tissue and thus initiate a healing process Lymph stasis doubtless prevents the spread of the disease process and the resorption of toxic substances Collapse of the lung causes also an abatement of the secretion and pneumothorax gives the diseased lung an opportunity for healing by shriveling He quotes statistics from Spengler, Saugmann, Stuertz and Zinn, which go to show that over 25 per cent of the patients so treated are symptomatically cured, and that from 40 to 50 per cent more are benefited

Glucose Injections in Heart Disease—Pfalz found that infusion of glucose solution as recommended by Budingen in various heart diseases in which he postulates cardiodystrophy, affects the subjective symptoms favorably In many cases he noted also objective evidence of improved heart action No untoward effects have been observed thus far Budingen raised the question whether the nutritive material stored up in the heart and that brought to it by the blood are under all circumstances quite sufficient to enable the heart to perform the work that is expected of it Budingen began to consider whether or not in certain cardiac diseases, for example in coronary sclerosis the symptoms might be caused in large measure by faulty heart nutrition in consequence of narrowing of the blood vessels He reached the conclusion that carbohydrates, and more especially glucose, play a larger part in heart nutrition than do protein and fat The physiologic sugar content of the blood is from 0 07 to 0 11 per cent (Ivar Bang) which suffices under ordinary conditions The most important reserve product of carbohydrate metabolism is glycogen the presence of which in the heart muscle is well known Budingen assumes that in certain conditions the heart fails to be adequately nourished, that the reserve of glycogen runs low and thus the heart does not get sufficient nourishment The resulting cardiodystrophy may be cardiogenic or ectocardiogenic Coronary sclerosis is an example of the former type, in which both cause and effect lie within the heart Pathologic conditions of the glands of internal secretion furnish an instance of the ectocardiogenic type, in which the cause lies without and the effect within the heart Either type of cardiodystrophy Budingen considers an indication for treatment with from 10 to 20 per cent glucose infusions Pfalz has used the Büdingen treatment in a number of cases, and states that he regards it as a valuable procedure The technic is simple He infuses a 12 to 20 per cent glucose solution, prepared from chemically pure glucose tablets, and sterilized before it is used Ordinarily, from six to ten infusions of from 200 to 300 c c each are given at intervals of a week He gives the infusion at body temperature He secured the best results in two cases of coronary sclerosis combined with angina pectoris, with blood pressure only slightly above normal At the end of the treatment the symptoms (oppression and pain in the chest and arm with suffocation after exertion) had almost entirely disappeared In three cases of general arteriosclerosis with hypertonia and angina pectoris the infusions proved beneficial in that the heart symptoms subsided considerably The infusions raised the temperature in several cases, but normal temperature was promptly regained

Progressive Paralysis—The investigations of Jahnel which showed that ordinarily there were large numbers of spirochetes present in the cerebral cortex of paralytics who had died during an attack are confirmed by the researches of Jakob and Hermel The findings of the latter investigators go to show that the exacerbations of the disease considered from a parasitologic standpoint constitute very important episodes in the course of progressive paralysis As the most important results of his investigation Jakob mentions finding that the mental and motor exacerbations are associated with regressive and progressive phenomena in the fundamental and essential part of the nerve fibers (the axis cylinder), and with severe inflammatory processes in the connective tissue, and infiltration of the pia, the vessels of the cortex and medulla, infiltration of cellular elements into the nerve tissue, collections of lymphocytes, encephalitic processes, occurrence of gummatous changes in the vessel walls, and of miliary gummata in the cerebral cortex Also endarterial proliferation processes in the vessels of the cortex were noted Jakob looks on his histologic investigations as furnishing further proof of the correctness of Jahnel's view that the exacerbations of the disease coincide with a vigorous and extensive multiplication of spirochetes So much Jakob thinks, must be taken as certain that in progressive paralysis living spirochetes exert a direct effect on the brain

It is still a question why paralysis develops in certain syphilitics and not in others although the observation that it is the syphilitics with very slight defense reactions in whom paralysis appears seems to point toward a solution Further light on the question is thrown by the observations of Erb and of Fournier that those in whom the infection takes a mild course and who present no specific skin lesions in the secondary stage are more prone to paralysis than are those of whom the converse is true Jakob s histologic data give the clue to treatment of progressive paralysis Everything possible must be done to effect a cure of the syphilis to destroy the remaining foci of spirochetes and to enhance the production of antibodies He reports that efforts in this latter line are now under way He is injecting patients by the vein with inactivated serum from untreated patients in the secondary stage of syphilis with pronounced cutaneous manifestations of the disease, hoping thus to increase the supply of specific antibodies He is also planning to use cultures of the spirochetes for a similar purpose As a further reenforcement of the treatment of progressive paralysis and other forms of severe neurosyphilis he intends to try Knauer s method of injecting arsphenamin into the carotids [This latter method was described in the *Münchener medizinische Wochenschrift* 66 609 (June 6) 1910 Even with this the drug does not seem to pass into the ebrospinal fl but the cell content dropped in one of t nineteen patients thus treated Knauer asserts that his experiments on the cadaver and on animals as well as his clinical experiences have demonstrated that this technic does not entail any considerable danger He suggests that it might be combined with intraspinal injection of the drug, and that possibly mercury or other drugs might pass more readily than arsenic into the cerebrospinal fluid He usually injects the drug into the carotid through the skin, without exposing the artery, as the patients are liable to tear off the dressings The head has to be pendent, to throw the artery into relief He says that in two of his cases no effect was apparent, but in the others the benefit surpassed that from any other treatment known to him]

Myocarditis from Illuminating-Gas Poisoning—Liebmann remarks that the publication of Zondek's studies on the heart findings after illuminating-gas poisoning impel him to publish the present case report The unusual finding in Liebmann's case, which was that of a woman of 38 who was found unconscious in her bathroom, having been overcome by gas escaping from a gas heater, was a severe interstitial and parenchymatous myocarditis Liebmann thinks that the symptoms in Zondek's case the drop in blood pressure, the disturbances of the heart beat and dilatation of the heart were doubtless the results of similar processes

Munchener medizinische Wochenschrift, Munich

Oct 24 1919 66, No 43

Spontaneous Healing of War Wounds of Nerves Perthes—p 1219
*Induced Pulmonary Edema E Laqueur—p 1221
*Osteochondritis dissecans P F Nigst—p 1223
*Silver Salvarsan Sodium in the Treatment of Syphilis Rille and Fruhwald—p 1226
Neurorelapses after Salvarsan Treatment O Sinn—p 1228
Device for the Intravenous Injection of Opaque Solutions Stuhmer—p 1230
Expert Treatment of Tropical Diseases L Kulz—p 1231
Simple Method for Determination of Wave Lengths of Homogeneous Roentgen Rays F Voltz—p 1232
Rib Cutting Shears Kehl—p 1233
Significance of the Casein in Parenteral Milk Therapy E Muller—p 1233

Experimental Pulmonary Edema—What attitude does the healthy organism take toward the presence of fluid in the lung? In order to answer this question Laqueur undertook a series of experiments on cats and rabbits A solution with which osmotic pressure would be especially active was chosen, in order that fluid might be drawn rapidly into the alveoli He injected 1 c c of a 50 per cent solution of glucose or of a 20 per cent sodium chlorid solution into the trachea of a rabbit whereupon edema of the lung shortly began to develop and continued to increase for about an hour, until the weight of the lung was three times the normal Associated with the osmotic edema in the lung there was exudation into the surrounding serous cavities, especially into the pericardium In all the fourteen instances of animal experimentation, at a certain period within the first two hours after injection, the hemoglobin content was higher than before the injection, so that it became evident that in osmotic edema, as well as in toxic edema, the blood undergoes inspissation Through hemoglobin determinations it could be shown that the amount of fluid that passed out of the blood corresponded to the amount of fluid forming the edema Induced edema of the lung appears, therefore, to be a ready means of not only bringing about changes in blood concentration but also of estimating the amount of such changes Muscular rest was found to affect very favorably the course and final outcome of the edema The circulatory disturbances are apparently suffocation symptoms Respiration was accelerated but less profound, so that the total air inhaled was not changed Laqueur thinks that the physical findings with such experiments may aid in teaching percussion and auscultation Resorption in the lung after the injection was extremely rapid Most of the fluid and of the glucose injected was absorbed promptly, the balance much more slowly Osmotic equilibrium between the edema fluid and the blood serum was soon established

Osteochondritis Dissecans—Nigst remarks that the etiology of the disease of the joints in which pieces of articular cartilage are split off from the ends of joints remaining otherwise intact is not yet fully cleared up, but the results of his radiographic investigations, together with the anamnesis, symptomatology and operative findings in his cases, are in close accord with the findings published by Ludloff in 1908 In view of the uniform, characteristic clinical picture he is inclined to regard osteochondritis dissecans as a distinct morbid entity The various differences reported by other investigators correspond to the different stages of the same pathologic process He agrees with Ludloff that the striking similarity in the localization of the lesions must be traceable to a definite disease process The preliminary stages of the disease are as yet unknown, but if in all cases roentgenograms of corresponding joints were made comparative studies could be undertaken that would help to throw light on the pathogenesis of the disease

Silver Salvarsan Sodium in the Treatment of Syphilis—Rille and Fruhwald find that the effect of silver salvarsan on syphilitic symptoms, both clinical and serologic, is more rapid than that of the usual combined neosalvarsan treatment Much smaller doses, they say, are required than are needed of other salvarsan preparations, which is all the more significant in view of the fact that silver salvarsan contains only two thirds as much arsenic as old salvarsan In using silver salvarsan one therefore keeps well under the toxic doses The authors found that as a rule silver salvarsan was well borne by patients, no serious accidents from its use were observed.

Zentralblatt fur Chirurgie, Leipzig

Dec 13, 1919 46 No 50

Clamp with Double Parallel Grasp for Operations on Stomach and Intestine R Sommer—p 994
Technic for Correction of Ischiorectal Fistula. H Walther—p 995

Dec 27 1919 46 No 52

*Blocking the Splanchnic Nerve G A Preiss and A Ritter—p 1025
Epinephrin not Indicated for Prevention of Postoperative Paralysis of the Intestines Mulberger—p 1030

Blocking the Splanchnic Nerves—Preiss and Ritter report the application in 89 cases of Kappis' technic for blocking the splanchnic nerve from the rear, reaching it from just below the twelfth rib, at a depth of approximately 7 cm above the second lumbar transverse process, introducing the needle at the lateral convex margin of the vertebra and depositing from 10 to 40 cc of a 1 per cent procain-epinephrin solution The patient may be prepared with a sedative the evening before and again half an hour before the operation Wendling reaches the nerve from the front 0 5 cm to the left of the median line and 1 cm below the xiphoid process, blocking the nerve before it joins the solar plexus Four reports have been published of experiences with these methods, a total of 254 cases Preiss and Ritter here state that in their 89 cases there were only 4 so refractory that the operation had to be done under inhalation anesthesia Cancer involving the nerves was responsible for the failure in 2 of these cases and phlegmonous appendicitis in another case in which the parietal peritoneum was intensely sensitive The fourth failure was with an ovariectomy, blocking the splanchnic nerves does not anesthetize the ovaries In 5 other cases a little supplementary inhalation anesthesia was required In one case the vena cava was punctured and in another the lung Fifteen different types of operations were performed including 13 resecting operations on the stomach, 5 gastro-enterostomies, 2 nephrectomies 1 decapsulation of the kidney, 2 cholecystectomies and a large number of resections of the intestines, jejunostomy, etc The fluid spreads easily in the retroperitoneal tissues, so that a single injection on each side was all that was needed for the appendicectomies The results were better when Kappis solution was modified to the following 1 c c procain, 50 c c distilled water, epinephrin (suprarenin) 0 001, sodium chlorid 0 35 and potassium sulphate 1 2 c c The anesthesia was so complete that they finally dispensed with the preliminary sedatives as superfluous and even detracting from the anesthetic effect The youngest patient was 11, the oldest 70 No serious by-effects were noted, no signs of intoxication or collapse, at most occasional nausea and pallor during the operation exceptionally a little vomiting The special field for splanchnic anesthesia they affirm, is not only for major operations on all the organs of the greater abdominal cavity but also interventions for severe acute peritonitis, as after perforation of a viscus

Zentralblatt fur Gynakologie, Leipzig

Dec 6, 1919 43, No 49

*Helminths in Female Genital Organs F Tschamer—p 989
*Nasal Diphtheria in the Newly Born J Becker—p 996

Helminths in Female Genital Organs—Tschamer reports a case in which two living specimens of the oxyuris were found in the right tube after total hysterectomy As the tube was slit one of the helminths crawled to the mouth of the tube, the other to the fimbriated end and both dropped off The longest was 12 mm in length No ova of the oxyuris could be detected anywhere in the excised mass but it had been rinsed, and possibly some may have been present at first The woman had been recently treated with santonin on account of discomfort from itching at the anus and genitals and in the nose The pinworms probably had found their way from the anus through the vulva and uterus into the tube, but there did not seem to be any pathologic condition for which they could be held responsible The patient in this case was a previously healthy secundipara of 31 who had had a hydatidiform mole removed in 1909, another in 1919 compelled evacuation of the uterus anew The genitals were otherwise normal at the time but five months later she returned complaining of pains in the inguinal region and excessive menstrual hemorrhages and a nodular tumor was found low in the uterus, apparently a chorio epithelioma Tschamer reviews the literature on helminths in the internal genitals, it is evidently a very rare occurrence He was not able to find any previous record of the penetration of the helminths or ova beyond the vagina and cervix except that Marro reported in 1901 a case in which oxyuris ova were found in a cyst on an ovary

Nasal Diphtheria in New-Born Infants—Becker states that at the Jena maternity there were five cases of nasal diphtheria in new-born infants in 1918 and four in 1919 He warns that bacteriologic examination is indispensable for every case of coryza in a young infant and above all when the discharge from the nose shows traces of blood In one case the nasal diphtheria entailed general sepsis with mixed infection and necrosis of the arm The snoring breathing is the first symptom to attract attention and then the thin, slightly purulent discharge running from one or both nostrils It is often reddish or brownish and erodes the upper lip The membranes are generally far back in the nose but can be easily removed Becker ascribes the infection to carrier visitors as the most probable source On this account it is now the rule not to give the child to its mothers to nurse during 'visiting hours' and no outsider is allowed in the infants ward In a recent compilation of thirty-eight cases the mortality was 31 6 per cent mostly from complications In another case the diphtheria settled in the cord

Dec 13 1919 43 No 50

The Other Tube with Tubal Pregnancy C U v Klein—p 1001
Id R Meyer—p 1007
Transperitoneal Cervical Cesarean Section with Premature Separation of the Placenta and Contracted Pelvis D Eberle—p 1010

The Other Tube with Tubal Pregnancy—Klein discusses the best method for preventing further conception in operating for tubal pregnancy saying that simple ligation of the other tube does not accomplish this nor even excision of a piece of the tube He has had cases of pregnancy later after both these procedures and he describes a case of a second tubal pregnancy in the other tube which had been ligated at the first operation The changes in the tube in consequence of the ligation had evidently afforded a predisposition for embedding of an ovum in the tube. Hence he advises in operating for tubal pregnancy to leave the other tube unmolested, unless time can be taken to render it permanently impermeable by excision and burying the stump in the uterus wall Anything less than this may actually invite tubal pregnancy later If it is deemed best to shut off the other tube, he advises Madiener s method as the most promising of the rapid procedures that is to shut off with ligatures a crushed loop of the tube Klein s experience with eighty cases of extra-uterine pregnancy includes thirty-two in which sterilization was attempted

Dec 27 1919 43, No 52

*Eclampsia and the War W Gessner—p 1033
Rieck s Resection of the Uterus D Pulvermacher—p 1036

Eclampsia and Wartime Conditions—Gessner states that the official statistics for Baden show a proportion of from 1 5 to 2 cases of puerperal eclampsia per thousand births between 1910 and 1916 inclusive In 1917 the births numbered only 29 779 in comparison to the 60 621 in 1914 but the cases of eclampsia showed a still greater proportional decline there being only 0 8 cases per thousand births Baden is the only one of the German states that has compiled statistics on eclampsia but various obstetricians have commented on the proportional drop in the number of cases of eclampsia At the Hannover maternity eclampsia dropped from 25 cases in 1913 to 23 13 10 and 7 during the years of the war He ascribes this decline in eclampsia to the women s working and exercising more under war conditions rather than to the wartime restrictions in diet though the latter helped to combat the dangerous accumulation of fat If the lack of fat and protein were responsible for the falling off of the cases of eclampsia then cows would never have eclampsia But cows do have eclampsia he says, because they are phlegmatic and lazy and this allows fat to accumulate As soon as the troops scattered to their homes and the women ceased to be active breadwinners the old conditions returned so that the factors keeping down eclampsia no longer prevail There is every reason to expect he reiterates that the eclampsia curve will rise and will never again touch such a low point as in 1918

The obesity resulting from thyroid or pituitary deficiency was not modified by war conditions and women with this did not grow thin during the war Pregnant women of this fat anemia type are peculiarly predisposed to eclampsia unless they are given thyroid or pituitary treatment in time He adds that the war experiences have demonstrated on a huge scale that women exercising and working to the last, and living on a scanty diet, have shorter and easier labor because there are no hindering subperitoneal layers of fat as under other conditions and the children are smaller He explains that the reason why there were any cases of eclampsia during these recent years was that women of means were not obliged to work and the extensive contraband trade lessened the dietary restrictions for many women

Zentralblatt fur innere Medizin, Leipzig

Dec 27 1919 40 No 52

Effect of War Undernutrition on the Bones A Koepchen—p 961

War Pathologic Conditions in Bones—Koepchen comments on the reports which came in first from Vienna in the spring of 1919 on the peculiar endemic pathologic condition in the bones resembling rachitis or osteomalacia Reports soon followed from other points in Germany and Austria Tübingen Frankfort Breslau Bonn and Dresden In his own experience in the Rhine Westphalia district he encountered twenty cases in a few weeks all in men except three and inquiry elicited a large number of similar histories throughout the region All were in young people and all were of the poorer classes The combination of severe pains in the bones edema and a hemorrhagic tendency and the characteristic light roentgen shadows of the bones and the endemic character with negative findings in other respects distinguish this war osteopathy Influenza cannot be incriminated as nothing of the kind seems to have been observed in the countries of the Allies or after preceding epidemics of influenza It is probably the result of a qualitative starvation of bone tissue from chronic lack of certain necessary food elements As he was unable to obtain cod liver oil he gave merely phosphorus and calcium and found this effectual, the pains in the bones becoming attenuated in a few days as a rule, only a few not feeling the benefit for a week or two He cites nineteen reports on the subject in German-Austrian journals

Nederlandsch Tijdschrift v Geneeskunde, Amsterdam

Oct 25 1919 2, No 17

*Deformity of Chest from Asthma A A H van den Bergh—p 1245
A Practical Stomach Pump H Wigger Boelens—p 1251
*Asphyxia of the Newly Born P J Mink—p 1253
Colic from Acute Angioneurotic Edema J H Landwehr—p 1259

The Tetrahedron Chest—Van den Bergh says that he has not found any reference in the textbooks to the malformation of the chest which he describes with illustrations It suggests a solid with four sides, each an equilateral triangle, the chest projecting in a peak between the nipples His five patients with this deformity had suffered since childhood from attacks resembling severe asthma, and the strain from these attacks explains the protrusion of the chest and its final persistence in this pyramidal shape There was no history of rachitis in any instance One of the patients was a man of 31 and another a boy of 11

Asphyxia of the Newly Born—Mink does not accept Kouwer's theory in regard to intra-uterine movements of the fetal respiratory muscles He insists that the fetal air passages are collapsed, and there can be no lumen The glottis and the nostrils are also closed The small arteries are contracted also, as is inevitable when there is no respiration This is an additional factor in the anemia of the central nervous system Other factors are the pressure on the head and chest in the birth passages Respiration is inaugurated, he explains, by the sinking of the diaphragm The traction from this pulls on the trachea and opens it, and this in turn pulls on the glottis and opens it and the nostrils The respiration releases the arterioles from compression, they dilate and blood streams to the respiration center, and the latter then takes charge of the respiration process He reiterates that when the ordinary stimuli from the mechanical and other changes after delivery are inadequate, tickling the nasal mucosa might prove a potent means to act on the respiration center As it is vitally important to supply the respiration center with blood he advises not to cut the cord until after this stimulus has been applied to the nose Very little time is lost by this, while the mother's blood may turn the scale If not, the cord can then be cut and the Schultze swinging started The swinging is merely, he thinks, a strong stimulus to the skin, and irritating the nasal mucosa is an equally potent stimulus The great importance of this stimulation of the nasal mucosa is best appreciated by comparing the normal nose breathing with breathing through the mouth or tracheal cannula The lack of the normal stimulus from the nose may be one of the causes of the asphyxia The excitability of the respiration center at birth may be enough to start respiration, but may not be enough to maintain it when the normal stimulation from the nose is lacking

Acute Angioneurotic Edema—In the case reported by Landwehr in a previously healthy woman there was fleeting edema at various points, but each time the edema subsided in about half an hour, not leaving a trace Eyelids, lips, chin, arms, hands and feet were affected in turn and finally sudden stormy symptoms indicated that the fleeting angioneurotic edema had attacked the bile ducts, simulating actual gallstone colic This has occurred on two occasions to date The swelling of the mucosa of the bile ducts obstructs the flow of bile, and the retention causes the colic pains the same as from retention of other origin The case is still under treatment Arsenic, strychnin and quinin have been recommended with regulation of the bowels and a milk-vegetable diet The first signs of the edema were noted about four months before date of writing

Nov 1 1919 2 No 18

*Scarlatinal Nephritis M A Duyvis—p 1339
The Anti Birth Control Congress F Hers—p 1344
*Correction of Deformed Noses E W de Flines—p 1353
*Vasotomy Scheffelaar Klots—p 1356
*Triplet Birth with One Living Child A ten Doeschate—p 1357
*Abscess in Lung after Tonsillectomy H Burger—p 1359

Prognosis of Scarlatinal Nephritis—Duyvis protests that scarlatinal nephritis does not altogether deserve the bad reputation it has acquired Recent reexamination of 30 nephritis patients from the epidemic of scarlet fever at Amsterdam in 1906, showed normal kidney functioning in 21 cases The blood pressure was normal in 5 others who presented intermittent albuminuria, including one suspected of tuberculosis In 4 others the blood pressure was above normal, and there were traces of albumin in the urine All of the 30 were in good general health Not one of the 30 had actual nephritis, and none had died from nephritis in the interim

Correction of Crooked Nose—De Flines gives illustrations before and after his correction of "rhinodystasis," congenital or acquired, and describes his technic for this "rhinorthosis" by cutting a wedge-shaped piece out of the upper jaw, on the broader side of the nose, working through the nose and subcutaneously, so there is no scar The apex of the triangular wedge resected points upward, reaching nearly to the orbit The bone on the other side is reached in the same way but merely a linear incision is made on this side, slanting from the orbit outward, and the same length as the corresponding side of the wedge on the other side The nose is then pushed over into its normal place In doing this, the bony connection with the frontal bone has to be wrenched apart or fractured He does this with the thumbs both on the small side and has always succeeded without using instruments The nose is then modeled, and fastened in its new position with a stout silk thread passed through a hole in the jaw on the broad side and in and out through two holes in the septum thus pulling the whole nose over into its proper place He operates under local anesthesia throughout, as also when he merely removes redundant bone to transform an ugly hook nose into an esthetic profile

Vasotomy—Klots merely describes this operation "as done by the Americans"

Triplet Birth—A viable 8 months girl was delivered and then two dead male twins from a second ovum at about the fifth month This case confirms the assumption that triplets are generally from two ova

Lung Abscess Following Tonsillectomy—Burger reviews the literature that has accumulated on this sequel of tonsillectomy since Manges first called attention to it in 1916 He thinks that the possibility of blood-borne infection cannot be excluded, but emphasizes that lack of preparation for the operation may also be a factor Recovery after long convalescence is usual, but operative intervention has sometimes been necessary, opening and draining the abscess, or resection of the lung Cott lauds artificial pneumothorax as the most effectual measure in treatment Burger remarks in conclusion that the data cited confirm the necessity for remaining in bed under medical supervision for a few days after tonsillectomy, also the necessity for the employment of local anesthesia for older children and adults and in young children the special precautions which every general anesthetic should impose

Hygiea, Stockholm

Dec 16 1919 81, No 23

*Mammary Cancer A Neander—p 937

Mammary Cancer—Neander analyzes the experiences at Stockholm with 427 operations for mammary cancer between 1900 and 1914 The 330 radical operations were followed by recurrence in or near the site of the cancer in 165 cases, and only 19 per cent were living free from recurrence after three years, 28 patients were thus apparently definitely cured After five years these figures were 16 8 per cent and 23 The outcome is not known in 84 cases The immediate operative mortality was 2 1 per cent He reiterates that 75 per cent at least of all pathologic conditions in the female breast after the age of 30 are malignant He discusses the arguments for and against evacuation of the supraclavicular fossa, saying that the 15 patients on whom this was done all died from cancer Over 66 per cent of all recurrences developed in or near the old site

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PROTEIN DIETS AND UNDERNUTRITION IN TREATMENT OF DIABETES

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NEW YORK

The modern treatment of diabetes is generally recognized as an attempt to relieve overstrain of a weakened assimilative function by limitation of the diet In the more severe cases, such relief is most quickly and thoroughly obtained by fasting, either immediately or after a preparatory fat-free diet as proposed by Joslin This part of the program is usually the simplest for successful accomplishment, and the chief difficulties and chief causes of varying results in the hands of different practitioners are found in the arrangement of the subsequent diet Excess in total calories has been the commonest mistake and responsible for much unfavorable progress and mortality, as pointed out in the comparison of cases differently treated by different persons in the Rockefeller Institute series [1] But the proportions of various foods are also highly important for maintaining control of the diabetes with the least possible impairment of health and strength Some practitioners desiring to avoid the former evils of high protein-fat diets have gone too far toward the opposite extreme with diets excessive in vegetables and deficient in protein and calories Mosenthal[2] has oulined diets predominant in protein and emphasized protein as the most important food for maintaining body nitrogen Equilibrium is known to be possible at widely different levels of nitrogen, total calories and body weight If active symptoms are to be prevented, the therapeutic problem in each individual patient is to determine the diet which gives the most beneficial nutritive result without overtaxing the assimilative power the latter being taken as the standard rather than any arbitrary nutritive level

At the Rockefeller Institute hospital, the diet after fasting generally began with a carbohydrate tolerance test, in the form of a regular addition of 10 gm of carbohydrate in vegetables daily until glycosuria resulted The purpose was to establish a standard of tolerance for comparison of different cases and of the same case at different times, and to continue undernutrition while diminishing or abolishing acidosis Such a program is really feasible only in an experimental institution, and objections to it may be thus formulated First, the time consumed is often so great as to be an obstacle to general practical application Second, during this period there is relative protein starvation combined with a special strain on the carbohydrate assimilation, both of which are better avoided if possible Third it is now known both from the clinical experience and from animal experiments[3] that relief of the injurious overstrain of the assimilation requires control not only of glycosuria but also of hyperglycemia A test based only on glycosuria therefore sets a false standard and is subject to considerable errors through the wide variations of renal permeability

Five facts may serve for guidance in planning diets after fasting (*a*) The total calories at first should be very low and increased gradually (*b*) Protein is the most important food (*c*) The tolerance for protein is highest when other foods are excluded or closely restricted (*d*) The caloric requirement falls with the body weight and may reach a very low minimum [4] (*e*) The tolerance rises as the weight falls, and with exceedingly few exceptions the two curves intersect at some level on which life can be supported

In a few cases with severe acidosis a short carbohydrate period may be advisable But for most cases in private practice it has seemed advantageous to use almost pure protein diets until the blood sugar falls to normal, and then gradually to build up a maintenance diet to such a level as is possible without return of hyperglycemia or marked acidosis The severity of the diabetes and the quantity of protein that can be tolerated may best be judged by a protein tolerance test as described by Jacobsen,[5] which is especially useful in some cases for deciding whether the patient is breaking diet Or, without any formal test, a satisfactory routine is to begin with a small protein allowance and determine the blood sugar occasionally as a guide for the increase Under any conditions, the ultimate criterion of the severity of diabetes is the level of diet and body weight which can be endured without return of symptoms The application of the method in question may be illustrated by the following summaries of case records, selected chiefly with reference to some of the practical difficulties

MILD DIABETES WITH OBESITY AFTER MIDDLE LIFE

CASE 1 (36) —*History* — A married woman aged 55 admitted to the hospital July 30 1919 with negative family history except for obesity in the father and one brother had worked hard and was thin up to age of 26 when she moved to America Here she married and gradually became pros-

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[1] Total Dietary Restriction in the Treatment of Diabetes Monograph 11 Rockefeller Institute for Medical Research 1919

[2] Mosenthal H O Clausen S W and Hiller Alma The Effect of Diet on Blood Sugar in Diabetes Mellitu Arch Int Med **21** 93 (Jan) 1918 Mosenthal H O and Clausen S W The Maintenance Diet in Diabetes Mellitus as Determined by the Nitrogen Equilibrium ibid **21** 269 (Jan) 1918 Mosenthal H O and Harrop G A Jr The Comparative Food Value of Protein Fat and Alcohol in Diabetes Mellitus as Measured by the Nitrogen Equilibrium ibid **22** 750 (Dec) 1918

[3] Allen F M J Exper Med to be published.

[4] Monograph 11 Rockefeller Institute for Medical Research p 1 0

Jacobsen A T B Am J M Sc to be published perous and obese. Five children were born to her, there was fever for two months following the birth of the first. One miscarriage occurred at the age of 40, she refused curettage and suffered from profuse menstrual hemorrhages thereafter. A year or two later she began to suffer chronic pains in the joints, especially the knees, which still continue. Five years before admission she was in bed with fever for three weeks, the physicians diagnosed infected uterine fibroids and were on the point of operating when the condition improved spontaneously. Hemorrhages ceased at menopause at about the same time and a small umbilical hernia was discovered which, though retained by a belt, has grown larger and creates much inconvenience. She had complained of "stomach trouble" for the last twenty-five or thirty years, with pain when hungry, generally relieved by food, but sometimes with cramps after eating. There had been continuous slight pain and tenderness in the liver region, and physicians had diagnosed an enlarged liver. She had been a large eater all this time, but denied excesses in sweets. Five years before admission she reached her highest weight of 274 pounds. Pruritus, polydipsia and polyuria then came on, and diabetes was diagnosed about one year later. Lax diet stopped the glycosuria temporarily, but it returned. Three years before, severe neuritis of the right leg kept her in bed for seventeen weeks, it was over a year before she could walk straight, and slight pain still remained. During this time her physicians used only local treatments, without diet restriction. Her weight had been diminishing, and she had become highly neurasthenic. Her complaints on admission were weakness, loss of 16 pounds in weight in the last two weeks, polyuria, pruritus, indigestion with abdominal pain, pelvic pain from fibroids, joint pains, neuritis in the right leg inconvenience from hernia, and exaggerated nervousness with frequent crying spells.

Physical Examination.—The patient's height was 5 feet 7 inches, and the weight, 212 pounds. The knee-jerks were absent and the Wassermann test was negative. Other findings were as indicated in the foregoing history.

Treatment.—In addition to heavy sugar, the urine showed traces of albumin but no acetone. After twenty-four hours of fasting, the glycosuria diminished to a faint trace, acetone did not appear but the plasma sugar was still 0.4 per cent. A diet was begun of 10 gm. of carbohydrate, 50 gm. of protein and 400 calories, glycosuria ceased within another twenty-four hours. August 4, the plasma sugar before breakfast was 0.214 per cent, and the diet was increased to 70 gm. of protein 20 gm. of carbohydrate and 650 calories. August 9, the carbohydrate was increased to 40 gm., and August 13 the patient was discharged on a diet of 70 gm. of protein, 50 gm. of carbohydrate and 900 calories, the plasma sugar was 0.144 per cent. and the body weight 103 pounds. Occasional slight nitroprussid reactions were present in the urine. Most of the pains and other subjective symptoms had disappeared, there was no complaint of indigestion on the low diet, the strength had improved with the aid of outdoor walking, with the better general condition the distress from the enlarged liver hernia and fibroids was much less, and the patient felt well and cheerful.

Subsequent History.—August 20, the patient reported, with urine negative for sugar and acetone, but plasma sugar 0.254 per cent., she was still feeling well. She admitted some laxness in diet, and was admonished to be strict. At her second visit August 29 the plasma sugar was 0.183 per cent., September 15 it was 0.152 per cent. The weight fell below 200 pounds though the diet was gradually increased to 1,500 calories and the patient had taken minor liberties in addition. The plasma sugar November 24, was 0.190 per cent, and the patient was urged to be more strict.

The case illustrates the variety of ailments that may result from overeating and obesity. Both for these and for the mild diabetes there is naturally indicated an undernutrition diet containing protein to protect body nitrogen and carbohydrate to prevent any serious acidosis, but deficient in fat so as to compel burning of body fat. The high renal threshold for sugar shows the unreliability of urine tests as a guide for treatment. The best policy calls for a normal blood sugar, but in view of the age of the patient and the inherent mildness of the diabetes, no undue alarm need be created by moderate hyperglycemia, especially as the analyses after discharge were all taken during digestion. Operation has been suggested for the hernia and possible gallstones if the patient will first reduce her weight sufficiently, but she will probably remain satified with her present condition.

MODERATELY SEVERE DIABETES AFTER MIDDLE LIFE

Case 2 (42).—*History.*—A man, aged 58, married, manufacturer, admitted, Aug. 2, 1919, with negative family history except for slight obesity in the father and mother, had had scarlet fever at 12, which was his only illness. There was no history of alcoholism or of excesses in food or sweets. Slightly obese from boyhood, he reached his highest weight of 210 pounds four years before. Then he had an acute onset of weakness, and a physician immediately diagnosed diabetes. The diets prescribed were unable to stop the glycosuria and loss of weight, pains in the legs became very troublesome, and in April, 1919, he was referred to me for treatment. He was given general instructions for a diet adequate in protein and low in both carbohydrate and fat, on which glycosuria was absent but hyperglycemia persistent. Instead of improving he complained of increasing languor. An examination, July 29, revealed a very faint sugar and negative nitroprussid reaction in the urine, with plasma sugar of 0.395 per cent. It was evident that mistakes in the diet at home were subjecting the patient to semistarvation without corresponding benefit, and he was accordingly brought into the hospital, August 2.

Physical Examination.—The patient's height was 5 feet, 8 inches, the weight, 137 pounds. The teeth were much decayed and repaired. The knee-jerks could be barely elicited with reenforcement. The examination was otherwise negative.

Treatment.—The patient insisted on staying as short a time as possible in the hospital. On a diet of 70 gm. of protein 10 gm. of carbohydrate and 700 calories the plasma sugar fell to 0.181 per cent., August 7, and moderate nitroprussid reactions were constantly present. With increase of fat to make 1,200 calories, these reactions became heavier and the plasma sugar rose to 0.192 per cent. The patient was dismissed in this condition, August 16, weighing 132 pounds and feeling slightly better. On attempting to work he became weak and had an attack of indigestion, which alarmed his family so that they brought him back to the hospital, August 22, and persuaded him to stay for more thorough treatment.

On a diet of 40 gm. of protein, 10 gm. of carbohydrate and 1,000 calories, the plasma sugar fell to 0.136 per cent. September 1. Also the blood urea, which had been 52.2 mg. per hundred c.c., fell to 26 mg. The diet was gradually built up so that the patient by September 30 received 70 gm. of protein, 50 gm. of carbohydrate and 1,400 calories (reduced one seventh by weekly fast-days). The last plasma sugar tests showed 0.147 per cent. fasting and 0.181 per cent. during digestion. The blood urea was 22.8 mg. per hundred c.c. There were constantly slight nitroprussid reactions in the urine. The weight was 128 pounds, and there was a decided improvement of strength and well-being and an absence of pains. The patient was dismissed, October 3, with a reduction of carbohydrate to 30 gm. as a precaution against errors of diet, at home.

Subsequent History.—Owing to well-meaning mistakes, the plasma sugar has since varied from 0.115 to 0.277 per cent. It has not been feasible to increase the diet or the weight. The improvement in health has continued, and the patient performs the light duties of his business and asserts that except for some lack of endurance he feels as well as ever in his life.

The case illustrates the frequent difficulties of home treatment even in willing and intelligent households, and the necessity of sufficiently long and thorough supervision and instruction in order to obtain results It is also an example of the greater or less discomfort and disability which usually result from diabetes even in later life The case may be classed as moderate in severity, on the basis of the restrictions of diet and weight required Undernutrition has improved the strength and comfort as well as the prognosis, but the results can never be as good as if thorough treatment had been begun at an earlier stage

Case 3 (6) —*History* —A man aged 62 married, lawyer, admitted July 23 1919, whose father died at 67 of tuberculosis, mother at 67 of cancer three uncles of tuberculosis, and a grandmother of acute nephritis and in whose family there was no record of diabetes or obesity had passed a very healthy life except for childhood diseases In 1901 an attack of urinary "gravel' incapacitated him for three days An intense attack in 1911 terminated with the passage of a stone the size of an orange seed He had a mild attack of grip" five years before but was not subject ordinarily to colds He was moderate in all habits, and his highest weight had been 195 pounds For the last two years he had noticed gradually increasing loss of weight and strength polydipsia, polyuria irritability of temper, and aching in the legs A physician consulted in June, 1919, diagnosed diabetes and referred the patient to me for treatment

Physical Examination —The patient was 5 feet 11 inches in height and weighed 138 pounds when dressed The general examination proved negative except for thinness and heavy glycosuria with slight acetonuria

Treatment —Instructions were first given for an approximate diet to be taken at home guessed to represent about 60 gm of protein and from 20 to 30 gm of carbohydrate with as little fat as possible Glycosuria ceased within a week, but notwithstanding further restrictions of diet and loss of weight hyperglycemia persisted and glycosuria returned whenever an increase of diet was attempted The patient entered the hospital July 23 weighing 133 pounds, with negative sugar and slight nitroprussid reactions in urine and plasma sugar of 0 214 per cent On a diet of 40 gm of protein and 10 gm of carbohydrate heavier nitroprussid reactions developed and the plasma sugar July 28 had fallen to 0 115 per cent This rapid fall of blood sugar may be attributed partly to the more accurate restriction of diet as compared with that at home and partly to the preceding month of undernutrition The diet was rapidly increased to 80 gm of protein 20 gm of carbohydrate and 1 500 calories (reduced by weekly fast days to about 70 gm of protein and 1 300 calories average) The patient was discharged thus, August 8 with plasma sugar before breakfast of 0 127 per cent and negative sugar and moderate nitroprussid reactions in the urine His weight was 130½ pounds

Subsequent History —The patient was rigorously faithful, but there were various minor mistakes in his household so that later the plasma sugar was found to range from 0 106 to 0 234 per cent Matters improved after a dietitian took charge of his kitchen for two weeks The weight fell to 116 pounds stripped but it was possible to increase the diet to 30 gm of carbohydrate and 2 000 calories generally with only 60 gm of protein because of the patient s distaste for it The weight thus rose to 119 pounds The plasma sugars during digestion in the forenoon have ranged from 0 148 to 0 197 per cent Attempts to increase the diet or weight have resulted in glycosuria and increased ketonuria Nitroprussid reaction in the urine now remain negative The patient has been maintained at the level stated in the hope of improvement with time

In all probability the diabetes in such a case existed in mild form for a number of years before the beginning of noticeable symptoms At the time of initial treatment, the decline of health and strength was becoming rapid The benefit usually felt when diabetes is checked by diet was about balanced by the undernutrition imposed, so that the patient feels about the same as before treatment He still carries the full work devolving on him as a prominent lawyer, which he probably could not have done if the diabetes had continued unchecked, but he remains thin, weak, and subjectively unimproved The chief claim to be made for treatment lies in the prognosis, which can generally be considered good at this age Overfeeding to the point of marked hyperglycemia and glycosuria damages the prognosis in such a case without building up strength On the other hand, insistence on rigidly normal blood sugar, necessary in youthful cases, is here unnecessary For the sake of strength the diet has been pushed to the point of moderate hyperglycemia, and there is hope of falling blood sugar and rising tolerance with time Though there have never been any symptoms of acute danger, the reason for calling this fairly severe diabetes is the low tolerance, which in six months has not permitted raising the weight above 119 pounds

SEVERE DIABETES IN MIDDLE LIFE

Case 4 (25) —*History* —A man aged 43, unmarried, wholesale liquor dealer, admitted, Aug 4, 1919 whose father died with diabetes at 77, whose mother was well at 72 and who had two brothers and four sisters who were well, and one brother who had epilepsy stated that mild childhood infections, and gonorrhea at 20, had been his only illnesses He had eaten three ordinary meals a day and a lunch every night, and was guilty of no excesses in food alcohol or tobacco He had always been thin with an average weight of 115 pounds In 1917 he experienced loss of weight without other symptoms and a physician diagnosed diabetes A diet low in carbohydrate without restriction of protein and fat kept sugar absent for six months but glycosuria had been present most of the time since and he had suffered from weakness loss of weight, polydipsia polyuria, nervousness, dental caries and inflammation of the gums

Physical Examination —The patient s height was 5 feet, 2½ inches, and weight 86 pounds He was delicate and nervous in appearance but did not present acute symptoms The teeth showed much repair and though scrupulous cleanliness had been maintained by frequent washes and a dentist s care the gums were everywhere red very dry and covered with small superficial ulcers There was slight dulness of both lung apexes anteriorly and posteriorly, but no active signs of tuberculosis Knee-jerks were absent The blood pressure was 84 systolic and 66 diastolic

Treatment —Fasting with the usual clear soup bran, and agar jellies was begun at entrance on the morning of August 4 The plasma sugar on the morning of August 5 was 0 350 per cent With continuous fasting to August 12 the urine still showed slight sugar and nitroprussid reactions There were no signs of danger and the plasma bicarbonate remained high The weight had risen by water retention to 89½ pounds August 13 and 14 a diet of 30 gm of protein and 135 calories was given The remaining traces of glycosuria then ceased with a single fast-day, August 15 The plasma sugar was then 0 231 per cent and the carbon dioxid capacity 69 2 per cent with nitroprussid reactions positive in the urine but negative in the plasma August 16 a diet of 10 gm of protein was begun increased by 10 gm daily Glycosuria appeared with 50 gm of protein August 20 and continued on reduced diet so that fasting was necessary August 23 and 24 An increasing protein diet was again attempted and glycosuria appeared with 60 gm August 30 After a fast-day the plasma sugar on the morning of September 1 was 0 208 per cent On that day a diet of 60 gm of protein and 900 calories produced glycosuria which required two fast-days September 2 and 3 to stop On the morning of September 4 the plasma sugar [illegible] 0 1 [illegible] cent As su a rapid fall under such circumstances may be a sign of serious weakness, the diet of 60 gm. of protein and 900 calories was resumed, with the result of slight glycosuria and on the morning of September 6 a plasma sugar of 0.288 per cent. A single fast-day, September 7, brought another sharp drop of the plasma sugar to 0.120 per cent. on the morning of September 8. Thereafter a diet of 30 gm. of protein and 500 calories was tolerated without glycosuria and with only occasional traces of nitroprussid reactions, but the plasma sugar, September 15, was up to 0.238 per cent. It fell by September 20 to 0.120 per cent., and after a fast-day, September 21, to 0.086 per cent. September 22. The diet was then increased to 50 gm. of protein and 700 calories and by September 27 the plasma sugar had risen to 0.165 per cent. After a fast-day it was down to 0.130 on the morning of September 29. Though the patient appeared scrupulously faithful and, furthermore, was under close observation, it was deemed prudent to make sure whether his diabetes was actually so severe or whether there was any smuggling or deception. Accordingly September 29 Dr. Jacobsen[6] performed a protein test, and it was found with the patient sitting constantly in the laboratory that the ingestion of 50 gm. of protein in beefsteak sufficed to raise the plasma sugar to 0.203 per cent. in six hours.

Continued undernutrition in the form of a diet of 50 gm. of protein and 800 calories with weekly fast-days reduced the plasma sugar to 0.079 per cent. on the morning of October 13. About this time the body weight reached its lowest level of 69 pounds. The patient though very feeble, was always out of bed several hours a day. An increase to 60 gm. of protein and 1,000 calories was now tolerated without hyperglycemia. The diets up to this point had consisted strictly of protein and fat without thrice-cooked vegetables or any possible source of carbohydrate other than a few bran biscuits. October 20, it was possible to proceed to a diet of 60 gm. of protein, 5 gm. of carbohydrate and 1,200 calories. November 1 the patient was discharged on a diet of 70 gm. of protein, 10 gm. of carbohydrate and 1,500 calories, also the weekly fast-days were mitigated by an allowance of 20 gm. of protein and 5 gm. of carbohydrate. The plasma sugar was 0.118 per cent. The weight was 73 pounds and the patient was up all day and able to take walks.

Subsequent History.—The patient returned to his home in another state and was able to carry on his private affairs though remaining practically an invalid. He came back for examination, December 12, with his general condition as at discharge, though distinctly stronger. Sugar and nitroprussid tests were negative in the urine and the plasma sugar taken at 10:30 a. m. was 0.152 per cent. This figure during digestion of breakfast and under the stress of traveling, was regarded as a basis for continuing the same diet.

Even in the absence of acute symptoms at admission, the severity of the diabetes makes it probable that it would cause early death if not controlled. The severe measures used were necessary for controlling such a case. When the last traces of glycosuria are unduly persistent, the initial fast may profitably be interrupted by a few days of low protein diet. The subsequent program consists in feeding chiefly protein to keep up the strength as well as possible, while waiting for undernutrition to lower the weight and raise the tolerance. The undernutrition may thus be carried to a point which might otherwise be dangerous, though in such desperate cases it is always necessary to be on the watch for threatening collapse. The skilful use of soup, coffee, agar, bran, celluflour[7] and other materials of little or no food value is an important aid against suffering from hunger. The result in this case was as good as could be expected under the conditions. The teeth and gums were quickly brought to normal, and the trouble from diabetes is now limited to emaciation and weakness. The patient is comfortable as a semi-invalid, and much pleased with his present feelings as compared with the former state of active diabetes. The question remains open how long this condition can be maintained.

POTENTIALLY SEVERE DIABETES IN YOUNG ADULT

CASE 5 (70).—*History.*—A man, aged 28, married, carpenter, admitted, Oct. 6, 1919, whose parents were living and well, knew of no heritable disease in the family. Three brothers and two sisters of the patient died in infancy of unknown cause. His wife and two children were well. He had measles, mumps, chickenpox, whooping cough and diphtheria in childhood. Then he was well until 1912, when he had severe typhoid with three relapses, being dangerously ill in bed for fourteen weeks. Since then he had had vague umbilical and lumbar pains about once a week, not related to meals, which came on especially if he maintained a stationary position, and were relieved by exercise. Jaundice or clay-colored stools were never noticed. He had had regular habits and had eaten heartily in his occupation as a carpenter, chiefly at outside work. He reached his highest weight of 160 pounds during convalescence from typhoid, and thereafter maintained an ordinary weight of 145 pounds. Three weeks before admission his weight was found to be only 137 pounds, he had a severe acute rhinitis with headaches followed within two days by distinct onset of polyphagia, polydipsia and polyuria. The physician, who was called immediately, diagnosed diabetes but prescribed lax diets largely of milk and eggs, on which active symptoms and loss of weight continued.

Physical Examination.—The patient's height was 5 feet 9¼ inches, his weight, 126 pounds. He was tanned and muscular and appeared healthy except for moderate thinness. There was marked cervical adenopathy. The knee-jerks were normal. The examination was otherwise negative.

Treatment.—Glycosuria ceased with two days of fasting, while the slight ketonuria increased. From an original 0.357 per cent. the plasma sugar fell rapidly to normal and remained so on a diet of protein alone beginning with 30 gm. and increasing to 70 gm. October 13, the diet was made 70 gm. of protein, 20 gm. of carbohydrate and 1,200 calories and increased, October 20, to 70 gm. of protein, 40 gm. of carbohydrate and 1,500 calories. The plasma sugars before breakfast ranged from 0.100 to 0.114 per cent. but one reading taken two hours after lunch was 0.187 per cent. Nevertheless, as the patient was in a hurry to leave, he was discharged, October 26, in the hope that he would improve further.

In the short hospital period he had not become sufficiently impressed with the necessity of exactness, and at home committed several minor indiscretions which caused glycosuria, and though this was checked by fasting and reduced diet the plasma sugar remained high, and he was therefore readmitted to the hospital November 27.

Injury to the tolerance was evident, for on a diet of 30 gm. of protein and less than 300 calories the plasma sugar fell slowly to 0.172 per cent. December 1, and 0.110 per cent., December 6. It remained thoroughly normal while the diet was gradually built up through the ensuing weeks to 70 gm. of protein, 30 gm. of carbohydrate and 1,650 calories, on which the patient was dismissed, January 22, weighing 128 pounds.

The pancreatic damage probably dates from the typhoid infection. Glycosuria presumably began some time between this and the first observed diabetic symptoms. The severity of the diabetes was still moderate at admission, but relapse was quick owing to the slight impression made by a short hospital period. The instruction in testing the urine for sugar proved important, as an effectual danger signal was thus given. The longer second period in the hospital established a safer condition on a higher diet The weight is lower than at admission, but stationary instead of falling The patient is strong enough to work, but the caloric requirements of manual labor constitute a problem in a case having the elements of severity

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[6] Jacobsen, A. T. B.: Am. J. M. Sc., to be published, Case 5.

[7] An indigestible cellulose flour, still on a somewhat experimental basis, produced by the Dietetic Cellulose Laboratory, 2557½ West Chicago Avenue, Chicago.

THE EARLY STAGE OF INHERENTLY SEVERE DIABETES IN YOUTH

CASE 6 (61) —*History*—A youth aged 19 a dealer in antiques, unmarried, admitted, Oct 3, 1919, whose mother and one aunt had diabetes, had a healthy life and excellent habits There was slight obesity He had measles in childhood, malaria three years before admission and influenza in the fall of 1918 During the first week of September, 1919 he noticed onset of weakness, polyphagia, polydipsia and polyuria After steady loss of weight, he consulted a physician September 25, who discovered heavy glycosuria and prescribed a carbohydrate-poor diet Glycosuria rapidly diminished so that only a trace was present at admission

Physical Examination—The patient's height was 5 feet, 6 inches, and weight, 143 pounds The patient appeared in good health and nutrition, and normal to all examinations

Treatment—After one day of fasting, glycosuria was absent and the plasma sugar was 0 134 per cent The first day's diet was only 10 gm of protein increased by 10 gm daily to 60 gm October 8 The urine showed slight to moderate nitroprussid reactions during this time Carbohydrate was then added first 10 gm increased to 40 gm so that by October 11 the nitroprussid test was negative The plasma sugar before breakfast October 13 was 0 106 per cent Up to this point fat had been so strictly excluded that the highest diet had not been above 500 calories Fat was now introduced to make 1,000 calories and increased by October 20 to 1 500 The occasional faint nitroprussid reactions thus produced were ignored The highest plasma sugar observed was 0 149 per cent during digestion in the afternoon The patient was discharged October 24, on a diet of 70 gm of protein 40 gm of carbohydrate and 1,500 calories His weight was then 136½ pounds

Subsequent History—The patient resumed his regular work and was strictly faithful to diet The urine remained normal except for occasional faint nitroprussid reactions but there was difficulty with the blood sugar such as is frequently encountered shortly after patients return home In samples taken forenoons during digestion the highest plasma sugar found was 0 192 per cent, and the lowest 0 150 per cent The diet was therefore reduced to 60 gm of protein, 20 gm of carbohydrate and 1 200 calories, with weekly fast days The body weight has thus fallen to 130 pounds, but the plasma sugar does not exceed 0 14 per cent It will be required to remain below this level during digestion of all meals and below 0 12 per cent fasting even if more weight has to be sacrificed The patient meanwhile continues his regular work looks distinctly thin is a little below full strength and not completely satisfied in his appetite, but never suffers actual hunger

It is hoped that a diet of 1,500 calories may soon be tolerated, but it is believed that the case represents the early stage of inherently severe diabetes, and that any overfeeding which would give an appearance of increased well-being at the price of hyperglycemia would prove disastrous A longer period of hospital treatment would have been advantageous The principal lesson, however, is the strict care which is necessary even in an incipient case, and the irremediable downward progress that would result from depending on urine examinations and ignoring the signs of overtaxed function evident in the blood

JUVENILE DIABETES IN STAGE OF MODERATE SEVERITY

CASE 7 (44) —A boy, aged 5 admitted Aug 31 1919 whose parents and two brothers were well, though both grandfathers and the paternal grandmother had diabetes, had always been a vigorous active child, plump but not obese Measles at 3 years had been the only illness He was not subject to colds or tonsillitis and indulged in no excesses in sweets He had an infected wound of the face in May 1918 Jan 12, 1919, his mother noticed polyphagia polydipsia and polyuria, and found that his weight had diminished by 2 pounds The physician found 7 per cent glycosuria and treatment was begun at once A two day fast produced sugar freedom and carefully restricted diets were used thereafter, but glycosuria kept returning at frequent intervals The weight at onset was 38½ pounds and it had increased to 42½ pounds During the last month glycosuria had occurred every few days, and the patient was referred for treatment on this account

Physical Examination—The patient was a well developed handsome child apparently in perfect health and nutrition He had left cervical adenopathy supposedly the result of the face wound The knee-jerks were normal and the Wassermann test negative Examination was otherwise negative

Treatment—The urine was free from sugar, but showed continuous heavy nitroprussid reactions The plasma sugar before breakfast was 0 120 per cent September 1 a diet of 50 gm of protein was begun and from September 2 an addition of 10 gm of carbohydrate was made daily, while fat was excluded as far as convenient September 9 glycosuria appeared with 80 gm of carbohydrate, while slight nitroprussid reactions still persisted No fasting was imposed but the foregoing program was repeated and glycosuria returned when the increase of carbohydrate reached 60 gm September 16 the nitroprussid reactions had become faint A diet was then begun of 60 gm of protein 45 gm of carbohydrate and 600 calories with weekly fast-days The plasma sugar, September 20 was 0 102 per cent As a skilled diet nurse was available the parents were allowed to take the child home at this stage The weight was 39 pounds

Subsequent History—September 28 the plasma sugar before breakfast was 0 15 per cent Unduly high figures continued thereafter, notwithstanding a temporary reduction of diet to 40 gm of protein 20 gm of carbohydrate and 450 calories Attention was then given to the fact that the office visits involved a long automobile ride from the home in the country with some attendant excitement, and by keeping the child over night at the hospital normal sugar values have been obtained both fasting and during digestion The nitroprussid tests are continuously negative The child holds an even weight 3 or 4 pounds below that at admission He still looks well and is active but yet is weaker as well as thinner than when received and the fast-days are especially depressing The diet is now being gradually increased and gain of strength is to be expected if a sufficient ration can be tolerated

The physician in charge had succeeded in keeping this child in an appearance of perfect health and strength during one year of diabetes, and also the plasma sugar before breakfast was normal The overprosperous appearance had been maintained by the liberal use of fat The tolerance had now fallen so that glycosuria was increasingly frequent from the small quantities of carbohydrate employed At the same time there was marked continous ketonuria, even though the plasma bicarbonate was still normal Continuance of the high fat diet involved three possibilities If the carbohydrate should be diminished the acidosis would increase, if the carbohydrate should be continued the same, the increasing glycosuria would soon bring still greater acidosis, if the carbohydrate should be increased, it would give a temporary diminution of acidosis at the price of a rapid breakdown of assimilation followed by the most dangerous acidosis of all Therefore the program adopted was to exclude fat, to give 50 gm protein for maintaining strength, and to take advantage of the increased tolerance gained by undernutrition for the purpose of ig carbohydrate so as to abolish acidosis. This result was slow and difficult to attain, because the excess in fat had been so long. The only benefit of the treatment to date has been the clearing up of glycosuria and acidosis, at the price of a certain amount of weight and strength.

The expectation now is to add to the diet so far as possible without a return of hyperglycemia or ketonuria. Some degree of thinness is inevitable from the nature of diabetes, but the family, especially the mother, hold the ideal of a fat child. Though the child does not now appear pathologically thin to a casual observer, this insistence on fattening is likely sooner or later to ruin the entire result in this case.

This case is presented as illustrating some of the practical difficulties of treatment. A diabetic child is not a well child and is often irreparably injured by the attempt to keep it appearing like a well child. Without hazarding a prediction of the ultimate outcome, there is now firm basis for two assertions concerning the possible benefits of thorough treatment of juvenile cases from the earliest stage: first, the three year limit of life no longer holds; second, comfort and happiness are greater than when active diabetic symptoms are permitted. As the diabetes is not cured, these benefits are purchased at a price. For the child, this is continuous undernutrition corresponding to the severity of his diabetes. For the household, the presence of an ailing child who is known to be incurable, the constant exact care of the diet or the keeping of a nurse for the purpose, and the nervous tension associated with the various vicissitudes and tests, constitute a serious burden. Obviously, this is no worse than the situation existing with many forms of chronic disease. With mothers of the old-fashioned type, it is possible for the child to receive correct care for an indefinite period with little disturbance of the home life. Some records of favorable progress and longevity, illustrating the brighter possibilities of juvenile diabetes, may be published later.

Half-measures are hopeless in children. It is fair to ask that those who believe in high diets should follow them consistently, and not merely through the mild stage when temporary weight and comfort are so easily maintained at the price of irremediable injury and subsequent suffering. If thorough control of the diabetes is the policy chosen, normal urine and blood should be insisted on from the time of the earliest diagnosis, for only thus can the best prognosis along with the best lasting nutrition be attained.

SEVERE JUVENILE DIABETES

Case 8 (23).—*History*.—A schoolboy aged 15, admitted Aug. 5, 1919, with family and personal history negative, had always been fat, while both parents were spare built. In January, 1918, it was first noticed that he was losing weight. He was taken from school and given abundance of milk and nourishing food; intense polyuria and polydipsia developed. The curious feature was that several urinalyses by the family physician and one by a commercial laboratory were reported negative, and no diagnosis was made until, in May, 1919, failing vision sent him to an oculist, who diagnosed double diabetic cataract and referred him to a consultant, who found 4 per cent. glycosuria. The weight, which had originally been 96 pounds, remained above 75 pounds up to this time, and then began to fall rapidly. Finally the patient was taken to a hospital in desperate condition, July 14, and subjected to fasting, but sugar-freedom was found difficult and heavy glycosuria returned with every attempt to feed. In consultation, July 31, there were found heavy sugar, nitroprussid and ferric chlorid reactions in the urine, blood plasma creamy with fat, plasma sugar 0.441 per cent., and carbon dioxid capacity 68 per cent. by volume. The last figure was largely explained by the use of alkali; the plasma gave a heavy nitroprussid reaction. Weakness and emaciation were extreme but not actually critical. Alternation of fasting and very low protein diet was advised. The patient was transferred, August 4.

Physical Examination.—The boy's height was 5 feet 6¾ inches, his weight 66 pounds. Except for emaciation, cataracts and absent knee-jerks, examination was negative.

Treatment.—The urine at admission showed only slight sugar and nitroprussid reactions. The plasma sugar was 0.410 per cent., the carbon dioxid capacity 76.8 per cent. by volume. There was no visible lipemia and only a faint nitroprussid reaction in the plasma. Notwithstanding the serious weakness, fasting was continued from August 4 to 12, with only thin soup, coffee and agar jelly, bran being omitted for fear of its possible carbohydrate. The renal permeability was peculiar, for while only traces of glycosuria, too small to titrate, were present at admission with plasma sugar of 0.410 per cent., these traces continued with plasma sugar, August 12, of 0.259 per cent. August 13 and 14, 30 gm. of protein and whisky to make 300 calories were given daily, with resulting gain of strength and fall of the plasma sugar to 0.205 per cent. A trace of glycosuria was still present, but ceased on fasting with whisky, August 15. The same program was continued August 16. Whisky was then stopped, and protein alone given: August 17, 20 gm.; August 18, 30 gm.; August 19, 40 gm. Slight glycosuria then resulted, with plasma sugar of 0.250 per cent. It was then attempted to keep the protein at 25 gm. and increase calories with fat to 600, but glycosuria with plasma sugar of 0.268 per cent. resulted August 23. With a single day of fasting and whisky, August 24, the plasma sugar fell to 0.188 per cent. A diet of 15 gm. of protein and 400 calories was then given for a week, and, August 31, the first fast-day without glycosuria was given; the plasma sugar before it was 0.192 per cent., and after it 0.150 per cent. The same diet with weekly fast-days was continued, and the plasma sugar after the fast-day of September 7 was 0.127 per cent., and after the fast-day of September 14 it reached the normal level of 0.115 per cent.

The diet was gradually increased to 30 gm. of protein and 700 calories without glycosuria and with only faint traces of ferric chlorid reactions, notwithstanding the strict exclusion of carbohydrate. In spite of the long undernutrition, the weight tended to rise by invisible water retention, and, October 15, reached its highest point of 72½ pounds. The strength improved correspondingly, and the boy was out of bed all day. Also, October 3, the more advanced cataract was uneventfully removed, and no retinitis found behind it. The clear vision of one eye in place of the former almost complete blindness contributed most of all to the patient's happiness. But the plasma sugar after the fast-day of October 12 was up to 0.192 per cent., and the calories were therefore reduced to 500, leaving the protein at 30 gm. After October 20, 5 gm. of carbohydrate was given daily. The plasma sugar before breakfast, October 25, was 0.155 per cent.; after the fast-day of October 26, it was 0.125 per cent. It was 0.097 per cent., October 31, and the diet was therefore increased to 30 gm. of protein, 10 gm. of carbohydrate and 600 calories. The plasma sugar was 0.12 per cent. on the morning of November 10, but gradually rose to 0.174 per cent., November 19. The carbohydrate was therefore diminished to 5 gm. On this diet, plasma sugars before breakfast were obtained as follows: November 29, 0.139 per cent.; December 5, 0.128 per cent.; December 10, 0.142 per cent. With a view to improving strength, the diet was changed to 40 gm. of protein and 600 calories, and later increased to 50 gm. of protein and 650 calories. This regimen has continued to the present. The plasma sugars have held about the same slightly elevated range of values as stated. Even on salt-free diet to remove edema, the weight has not fallen below 67 pounds, which is 1 pound above the entrance weight. Both sugar and nitroprussid reactions are continuously negative in the urine.

Unfortunate delays in the diagnosis of diabetes are still encountered even among practitioners of good repute, but are becoming less frequent The damage in such a case is irreparable The boy remains emaciated, weak and always more or less hungry It is inconceivable that he should live to maturity, and during life he is cut off from practically all normal pursuits Favorable features in his treatment may be thus enumerated Actual suffering from hunger is prevented by the use of materials to furnish bulk (bran, agar, celluflour, "India gum," liquid petrolatum, soups, small quantities of thrice boiled vegetables), without which such low diets would scarcely be practicable The boy has become strong enough to keep the average hours of a normal boy, and to go walking or riding every day, his pedestrianism amounting to 6 or 8 blocks without weariness

Operations may be performed with safety, and wounds heal well when diabetes is controlled even at this extreme stage, therefore the sight of one eye could be restored and the same can be done for the other at the proper time Having exceptional artistic talent, the boy now is able to keep himself constantly amused with drawing and painting He has a naturally cheerful disposition, and though an invalid, his continuous enjoyment of life is genuine and not pretended

Such cases suggest the possibilities open when thorough treatment is employed from the earliest stages

SUMMARY

A possible form of low-calory diet after fasting is one composed wholly or chiefly of protein, and this plan has seemed to be most useful for maintaining strength during the period of undernutrition necessary for attaining a normal blood sugar In some elderly patients slight hyperglycemia and nitroprussid reactions may be permissible to avoid undue hardships, but diabetes after the age of 40 is by no means always benign, and not infrequently requires stringent measures to control it, especially after long neglect The more severe the diabetes and the younger the patient, the more rigorously should hyperglycemia and all other symptoms be controlled from the outset Such a policy often means a considerable reduction of weight and strength as compared with the level which can be maintained temporarily by higher diets, and its justification depends on the belief that patients are best off in the long run when their weakened function is spared as thoroughly as possible

5 East Fifty-First Street

Alcoholic Hair Tonics—Assurance of 100 per cent cooperation in the enforcement of the prohibition laws were given by representatives of the barbers supply and perfumes trade organizations at a hearing before Prohibition Commissioner John F Kramer and officials of the Bureau of Internal Revenue to discuss ways and means for rendering certain alcoholic preparations now on the market undrinkable After Jan 16 1920 the date the national prohibition act becomes effective, such preparations cannot be legally manufactured or sold if fit for beverage purposes Dr A B Adams chief chemist of the Bureau of Internal Revenue declared there are on the market many hair tonics whose principal ingredient is alcohol and that they are hair tonics in name only Such preparations must be modified to conform to the law The bureau has under consideration a requirement that in the manufacture and sale of bay rum there be added a quarter of a grain of tartar emetic for each fluidounce—*United States Bull* Dec. 8, 1919

THE FEEDING OF NORMAL INFANTS DURING THE SECOND YEAR

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Whether or not it has been nursed or fed artificially, a baby, when it is a year old, will be taking, in most instances, whole milk or whole milk with a cereal diluent If it follows the present fashion, it will almost certainly be receiving orange juice in addition It will probably be taking some of the simple cereals and perhaps broth and beef juice If it is being fed properly, it will not, in my opinion, be given anything else

NEED OF CEREALS AFTER FIRST YEAR

If the baby is not getting cereals when it is a year old, they should be given at once The simplest and most digestible cereals are barley jelly, oat jelly and farina They should be given at the beginning of two feedings daily with milk and salt, but no sugar Cream should never be given to babies, and sugar is unnecessary It is idle, of course, to say that a little sugar will do harm Almost all babies and children are, however, fond of sugar and the tendency of almost all children is to take more sugar and sweets and to refuse foods that are not sweet or sweetened The most common cause of indigestion in childhood is sugar and its products If the baby is taught from the first to eat things without sugar, it learns to like them in this way and, as it grows older is willing to eat proper food Much trouble in the future is thus avoided if babies are never given sugar or sweet foods Cream of wheat, Ralston and rice may be given after a few months, and it is not necessary to strain the oatmeal after the baby is 18 or 20 months old Cereals that are not cooked in the house and the sweet cereals should never be given to babies

BROTH AND BEEF JUICE

If the baby is not already receiving broth and beef juice, these should be given at the beginning of another feeding when the baby is a year old or soon after Chicken and lamb or mutton broth are much more digestible than beef broth Not more than 4 ounces should be given at a feeding, because of the danger of "filling up" the baby and destroying its appetite for more nutritious food, the value of clear broth being practically nil The expressed beef juice is far preferable to any other form Not more than 2 teaspoonfuls should be given at first, and never more than 2 ounces before the end of the second year, because beef juice makes many babies nervous and sleepless It must not be forgotten in this connection that the nutritive value of beef juice is only about half that of an equal quantity of milk

ZWIEBACK, BREAD AND RICE

A month or two after broth and beef juice have been started, zwieback, bread crumbs and rice should be given in them If the baby has a sufficient number
of teeth to enable it to chew prope [illegible] be
zwieback, toast bread, stale br [illegible] n
cracker in its hand" t [illegible]
ings It should neve [illegible]
feedings, because it [illegible]
to acquire early th [illegible]

Bread and crackers may also be given in milk or in the form of milk toast or cracker milk toast in place of, or in addition to, the cereal at the last meal of the day

LAXATIVES

It is probably advisable, although not usually necessary, to continue the orange juice, especially if there is a tendency to constipation If there is, prune juice or pulp and baked apple may be given instead of, or in addition to, the orange juice The orange juice should be given an hour before some feeding, and prunes and baked apple at the end of some feeding

Plain boiled macaroni, preferably riced, may be added to the diet at 15 or 16 months At this time, or a little earlier the milk at the midday meal may be given in the form of junket or plain blanc mange It is most unwise, I believe, to begin potatoes before the baby is a year and a half old Throughout infancy they should be given only when baked, and then sparingly There is apparently no other form of starch so hard for the baby to digest and so likely to cause fermentation

THE USE OF EGGS

It is also unwise, in my opinion, to give eggs before the baby is eighteen months old Half an egg may then be given once or twice a week, and a little later a whole egg three times a week In my experience, few babies can take more without being disturbed If babies can take eggs without disturbance, a number of other articles that are made with eggs can then be added to their diet These are baked custard, rice pudding and bread pudding Eggs should be given to babies coddled, soft-boiled, dropped or poached and in no other ways

MILK AS THE BASIS OF DIET

Milk should form the basis of the diet during the second year, and an important part of the diet for several years longer It is probably wise to limit the amount of milk to a quart daily This quantity provides enough nourishment to cover a considerable part of the caloric needs If more is taken, it is likely to destroy the appetite for other articles of food

MEAT AND GREEN VEGETABLES

The diet outlined above is all that is necessary or advisable for the average normal infant up to the end of the second year At this time I add meat to the diet and sometimes green vegetables Ordinarily, however, I wait some months longer before adding the green vegetables The most easily digested meats are the white meat of chicken, lamb chop and scraped beef These are, therefore, given first The most easily digested vegetables are, in my experience, spinach, string beans, peas, asparagus and stewed celery The spinach string beans and peas should always be rubbed through a sieve or a colander Carrots are much less digestible and should always be mashed My subject, however, is the diet of the normal infant during the second year, and infancy ends with the close of the second year I must not, therefore, further consider any articles of diet that, as I believe, should not be given until infancy is passed

THE LIBERAL DIET

I am well aware that the diet which I have outlined is old fashioned and that many, perhaps the majority, of pediatricians and practitioners feed much more liberally I know that many give green vegetables to babies that are artificially fed when they are only 6 months old Some of them may give them also to breast-fed babies I do not know I know that many give eggs and meat at a year and feed babies of 2 years more liberally than I would feed children 4 or 5 years old Why is it that so many pediatricians feed babies so much more liberally than was the custom some years ago? Are there any good reasons for the change, or are they blindly following a new fashion? Do the babies do any better when they are fed so liberally, or do they thrive better when they are fed simply? If they do better on one system than the other, why do they? If they do not why do they not? Ought those who feed simply to adopt the newer and more liberal methods, or ought those who feed so liberally go back to the simpler methods of their elders?

It is very difficult to answer these questions on the basis of clinical experience My own experience has been that babies thrive on the simple diet that I have outlined The not inconsiderable number of babies brought to me because they are not thriving on the liberal diets prescribed by other pediatricians convinces me that some babies, at least, do not do well on these liberal diets These babies do well, however, when given simple diets, which would seem to show that the simple diet is better and that the babies which do well on a liberal diet do so in spite of the diet rather than because of it I have no doubt, on the other hand, that other men may have seen babies which were not doing well on the simple diets prescribed by me and which did well at once on the more liberal diets that they ordered They would, of course, draw entirely different conclusions from their experience than I would from mine Would either of us, neither of us or both of us be justified in our conclusions? I am inclined to think neither of us

WHAT NATURE TEACHES US

Does Nature teach us anything of value as to the solution of this problem? Very little As Nature provides a supply of breast-milk sufficient under normal conditions for the needs of the baby for nearly a year, it seems evident that Nature did not intend breast-fed babies to have eggs, meat and green vegetables when they were 6 months old Nature teaches us nothing however, as to what the baby should eat after it is a year old or what an artificially fed baby should have to eat during the first year, except the general indications afforded by the composition of human milk These are that the baby's digestive powers are best fitted to take care of a dilute food relatively high in fat and carbohydrates and relatively low in proteins, with the protein in an easily digestible form It would seem reasonable on the basis of these indications to believe that artificially fed babies should be given a simple diet along these lines rather than a diet that makes demands on the digestive powers for which they are apparently not fitted We are, nevertheless, not justified in drawing too definite conclusions as to what indications Nature gives us as to the feeding of babies, as is shown by what we know of starch There is no starch in human milk, and it would seem, therefore, as if a baby could not digest starch Nevertheless, we have found that the power of starch digestion is well developed at birth, and that babies have no disturbance of digestion when moderate amounts of starch are added to their foods We must be careful, therefore, in drawing conclusions from what Nature seems to teach us as to the artificial feeding of babies

IS THE SIMPLE DIET SUFFICIENTLY NUTRITIOUS?

Rather than to attempt to prove at once that the simple diets are preferable to the more liberal, it seems to me better first to ask what arguments those who believe in the liberal diets are likely to advance in their favor It seems to me that they may claim that the simple diet is not sufficiently nutritious, that it does not contain a sufficient amount of certain elements, such as vitamins and salts, necessary for the well-being and development of the baby, and that it tends to the development of constipation, while their liberal diet corrects all the deficiencies of the simple diet They certainly cannot claim that the liberal diet is more digestible than the simple diet It is self-evident that it is not, and it must be admitted without question that whatever advantage there may be in easy digestibility lies with the simple diet

Let us take up first the nutritiousness of the diet, that is, its caloric value The caloric needs of the average baby of a year are at a liberal estimate not over 1,000 calories daily and of a baby of two years not over 1,200 or 1,300 calories The quart of milk which is recommended in the simple diet provides 670 of these calories Two or three tablespoonfuls of cereal, a slice of bread and the juice of an orange will bring the total up to 1,000 calories If there is no lack of calories in the simple diet at the beginning of the first year, there will certainly be no lack later, when the diet is increased The protein needs of babies in their second year vary between 20 and 30 gm daily A quart of milk contains 34 gm It is evident, therefore, that the simple diet outlined amply provides for the caloric needs of babies in the second year and more than covers their protein needs

THE VITAMINS

Now as to the argument that the simple diet may not contain enough vitamins, or accessory food factors The fat of milk contains an abundance of the fat soluble A If a baby takes a quart of milk daily, it will have no lack, therefore, of this element Milk is also rich in the water soluble B A baby that takes a quart of milk will thus also be amply provided with this element It will, moreover, get a certain amount of these elements in its other food Judging from the fact that babies grow satisfactorily on an exclusively milk diet during their first year, it seems reasonable to believe that milk contains a considerable amount of the hypothetic growth vitamin A quart of milk daily will presumably furnish enough of this in the second year Milk is known to be low in antiscorbutic power Nevertheless, a pint of milk contains enough antiscorbutic element to prevent the development of scurvy during the first year A quart of milk would be expected to furnish enough during the second year If the baby is taking orange juice, moreover, the question of the antiscorbutic power of the rest of the diet will never arise

MINERAL SALTS

The salts which may reasonably be considered in this connection are those of calcium phosphorus and iron The average amount of calcium retained by infants is between 0 17 and 0 18 gm daily One liter of cow's milk contains from 1 65 to 1 98 gm of calcium oxid[1] Other figures given are that infants require 5 grains of calcium daily, and that a quart of milk contains 22 grains[2] Next in calcium content come eggs, then the cereals, especially rice, then some of the vegetables, such as radishes asparagus and spinach Foods poor in calcium are meat, fish, bread, fruits and potatoes It is evident therefore that the baby that gets milk will not suffer for lack of calcium Furthermore, eggs and cereals contain more calcium than do the vegetables

Milk contains so much more phosphorus than the baby can possibly utilize that it is not necessary to consider this element further

I have been unable to find any figures as to the needs of babies for iron A liberal estimate of the adult's need of iron is 0 015 gm daily Taking the average weight of the adult as 150 pounds and that of the average baby between 1 and 2 years of age as 25 pounds, the infant's requirement will be one sixth of the adult's, or 0 0025 gm daily Milk is a food notoriously low in its iron content Nevertheless, a pint of milk contains 0 0009 gm of iron and a quart 0 0018 gm of iron, or more than two thirds of a baby's daily needs An ounce of beef juice contains 0 00198 gm of iron The value of this iron is, however, probably not as great as it would seem to be because the iron contained in hemoglobin and its derivatives is very poorly absorbed The yolk of an egg contains 0 0015 gm three tablespoonfuls of cooked cereal 0 0009 gm and one and one-third slices of bread 0 0003 gm of iron It is quite evident therefore, that the baby taking the simple diet will not lack for iron Furthermore, the iron content of the green vegetables is not as great as would seem from their color An ounce of fresh spinach contains 0 00094 gm of iron, 1 ounce of string beans, 0 00047 gm, and 1 ounce of carrots, 0 00023 gm These figures have been calculated from the tables given by Carter Howe and Mason[3] Moreover it would seem more reasonable, provided the simple diet did not contain enough iron, which it does, to give the baby some preparation of iron than to take the chance of upsetting the baby's digestion by giving green vegetables The argument which may be raised by some that the iron in the green vegetables, being organic, would be better utilized is erroneous because it has been conclusively proved that organic and inorganic iron are equally well utilized

THE NEED OF BULK

Now as to the question of constipation It is true that green vegetables act as laxatives by increasing the bulk of the intestinal contents and perhaps also by certain irritating elements stimulating intestinal peristalsis which they may contain Bulk is not lacking, however, in the simple diet, for milk provides a considerable residue Orange juice prune juice and baked apple are as good laxatives as green vegetables and less likely to disturb the digestion There is therefore, not likely to be any necessity for the use of the green vegetables for the relief of constipation

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[1] Morse and Talbot Diseases of Nut [illegible] Fee [illegible] New York the Macmillan Com [illegible] 15 [illegible]

[2] Hutchinson Food and [illegible] Co 1917

[3] Carter Howe and [illegible] Philadelphia Lea and Fe

THE SIMPLE DIET VINDICATED

The arguments that it was thought might be advanced by the believers in the liberal diets against the simple diet in favor of the liberal diets have, therefore, no basis in fact What other explanation can there be of the present tendency to increase the diet so rapidly during the latter part of the first and the second year of life? It can be traced back to the time, I think, when the majority of physicians in this country accepted without question and without thought everything that came from Germany German babies were given sausages and sauerkraut, consequently they believed that American babies ought also to take them Another possible reason is the general tendency of physicians, especially young ones to believe that everything which is new is right and everything which is old is wrong Physicians are in general altogether too willing to accept any new teaching as true, if it is new or different This, to my mind, is wrong We should not discard the old and tried in favor of something new, simply because it is old, and should not accept the new until it has been proved to be better than the old We must not forget that there are fashions in medicine as well as in dress, and that the new fashions are often no improvement on the old On the other hand, we must be open-minded and be willing to accept the new when it is better than the old and not reject it because it is new I have tried to be open-minded on this question of diet for babies during their second year, but perhaps I have not succeeded My conclusion after due consideration, observation and experience is that the old fashioned simple method of feeding is better and safer than the newer and more liberal diet

70 Bay State Road

THE DIAGNOSIS OF HEART DISEASE IN YOUNG PEOPLE *

PAUL D WHITE, MD
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One of the most important lessons that the civilian physician learns from his army experiences is the need of more accurate diagnosis of heart conditions in young people A discussion of this subject is particularly apropos at the present time, because still fresh in our minds and still fresh on the pages of many medical journals are the descriptions of the soldier's heart, or effort syndrome, or cardiac neurosis, or neurocirculatory asthenia—call it what you will For definition of this condition effort syndrome with which the diagnosis of heart disease is so often confused I refer to the excellent writings of Thomas Lewis[1] and Alfred Cohn[2] Lewis writes as follows

> When a healthy man takes exercise and this exercise is sufficiently stressful or prolonged he becomes aware at the time of the effort, or after it has ceased, of certain symptoms, and he presents certain physical signs The most notable of his symptoms is breathlessness a symptom which comes during the exercise and continues with diminishing intensity for a variable period afterward During the exercise, consciousness of the heart beat may come, giddiness or actual faintness or fatigue may be added At the cessation of the exercise, aching of the limbs, tremulousness and exhaustion are experienced, at a later period, stiffness of the muscles, a feeling of lassitude and sometimes actual malaise and tremulousness are noticed In cases of extreme effort, pain over the precordial region, at first aching but exceptionally more violent and widespread, may be felt During the period of exercise the heart rate and blood pressure are raised, the alae nasi are dilated, the accessory muscles of respiration are brought into action to increase the tidal flow of air To these physiological symptoms and signs briefly described as a group I apply the term *physiological syndrome of effort*
>
> The difference in symptomatology which exists between health and this form of ill health is largely a difference in degree, the gage is the amount of work which, performed in a given space of time, will provoke the symptoms Symptoms produced in normal subjects by excessive work are produced in the patients by lesser amounts, the smaller amount of work required, the more severe the malady Naturally, there is no sharp line of division, there is in a large group of patients a perfect grading from the healthy man to him who is seriously unwell We are traveling in the borderland between health and disease This point of view has its value, it directs investigation toward the normal reactions of the body to exercise and to the corresponding reactions in disease, it brings us to inquire into the reserves of some of the most important bodily functions, and into the manner in which these reserves are reduced

He also states that

> One of the largest groups of effort syndrome is that of constitutional weakness, nervous or physical or both In this group are many who show incomplete or imperfect development To it belong many undersized men many with flat or elongated chests and instances of infantilism, to the same group belong many with family histories tainted by insanity or epilepsy, and those who in childhood were nervous weaklings, bed-wetters, somnambulists, etc

The term "effort syndrome" is incomplete, in that it does not express the reaction of these patients to excitement Excitement alone may produce the same symptoms as effort

Since my return to civil life I have noticed a group of cases, particularly in young women, which had been diagnosed as heart disease, sometimes for years, not infrequently as mitral stenosis, and which I feel were no more heart disease than were cases of effort syndrome encountered in soldiers during the war In the Massachusetts General Hospital I have seen twelve such cases in the past six or eight weeks The importance of this matter is obvious If these patients have not heart disease—and the evidence is against their having heart disease—reassurance and treatment of their nervousness are the important therapeutic measures Much worry has been occasioned and much time has been lost for some of these people as the result of the inaccurate diagnosis in the past Since young women, as compared with young men, are generally more subject to exhaustion or irritability of the nervous system, it is likely that they more often develop the effort syndrome It is not, however, merely in young women that we have seen the incorrect diagnosis of mitral disease

Other conditions besides effort syndrome which, because of the symptomatology, may simulate heart disease are hyperthyroidism and infectious diseases

In the past, great stress has been laid on the symptoms ordinarily found in serious heart disease, dyspnea, palpitation, precordial pain and tenderness, but more and more it has become obvious that the same symptoms may occur when the heart is apparently sound and when the condition is that of effort syndrome or nervousness As the patient's attention is called to his or her heart, the symptoms tend to become more and more aggravated In old people these symptoms are probably much more significant of heart trouble, but in young people who are nervous and in whom no signs of heart disease can be found, the presence of dyspnea and palpitation and even precordial pain should be regarded as very uncertain evidence of heart disease

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* From the Massachusetts General Hospital

[1] Lewis Thomas The Soldier s Heart and the Effort Syndrome New York P B Hoeber 1919

[2] Cohn Alfred The Cardiac Pha e of the War Neuroses Am J Sc 158 453 1919

To which of the symptoms and signs must we pay especial heed in the differential diagnosis between effort syndrome and early or slight actual heart involvement? In the first place, a past history of rheumatic fever is certainly important and tends to support a diagnosis of heart disease On the other hand, a familial or personal history of nervousness or nervous prostration is much more in support of the diagnosis of effort syndrome The symptoms of dyspnea, palpitation, pain and tenderness are insufficient for differential diagnosis Lewis[1] states that "breathlessness of purely cardiac origin is always accompanied by general cyanosis—slight, moderate or extreme"

Some physicians have paid much attention to tachycardia, extrasystoles and systolic murmurs in diagnosing heart disease Here again we may be led astray, since all these conditions are apt to be found in people with the effort syndrome A recent discussion by Lewis[3] covers these points

Positive evidence of heart disease on physical examination includes any of the following

1 Definite cardiac enlargement to be determined, if in doubt by teleroentgenography or orthodiagraphy

2 The presence of a diastolic murmur If one suspects the presence of a presystolic murmur and cannot be sure of it it is usually wiser to consider it as not existing Such a patient should be checked up by later examination The exercise test used to bring out a presystolic murmur also causes in cases of effort syndrome the first sound to become so forcible and tumultuous that a mistaken diagnosis of mitral stenosis may sometimes be made from the character of this sound

3 A systolic murmur at the apex if very loud, and especially if it masks the first sound usually means evidence of actual involvement of the mitral valve The slower the pulse the more important is this murmur Transmission of the systolic murmur to the axilla and back depends on the intensity of the murmur the more intense the murmur the further it is transmitted and the more likely it is to be evidence of organic valve disease Therefore transmitted murmurs are more apt to be evidence of true mitral disease, but not necessarily so

A very loud systolic murmur at the base with thrill, indicates the presence of stenosis of the pulmonary valve or of the aortic valve

4 The presence of serious arrhythmia that is heart-block or auricular fibrillation, if not the result of digitalis

5 Congestion of the veins of the neck

6 Enlargement of the liver Edema of the feet and legs or if a patient is in bed of the sacral region, ascites and hydrothorax, and edema of the lungs

7 Cyanosis

The presence of very severe anginal pain is in favor of organic heart disease The presence of extreme nervousness, tremor, sweating, and other vasomotor phenomena favors the diagnosis of effort syndrome Occasionally one finds a combination of the two conditions which may give rise to a good deal of difficulty in diagnosis

Meredith[4] has recently found among 2,000 young women in college and in clerical and factory work 193 who had been told by physicians that they had heart trouble, usually valvular, and had been advised to work as little as possible and to rest all they could On examination, she failed to find in these 193 women evidence of organic heart disease but she did find functional heart disturbance which she ascribed to myocardial subdevelopment, but which, from her description of the symptoms and signs fits very well in the effort syndrome class These women should of course have their attention distracted from the heart and their life occupied with work and play which will not be too strenuous for them Neuhof[5] has recently discussed the irritable heart as found in general practice He considers the vasomotor symptoms more pronounced in civilian cases than in soldiers He says, "The fundamental cause of the cardiac neurosis with its various manifestations, seems due to hyperexcitation of the sympathetic nervous system"

There is one further point to which I should like to call attention and that is that even when the heart is damaged and a diagnosis of slight involvement can accurately be made, the life of the individual should not be too closely restricted or the patient too much alarmed over the abnormal heart finding It has been shown by Mackenzie and others that people with slight heart disease may live active, useful lives without difficulty

REPORT OF CASE

A case is herewith reported in order to illustrate the differential diagnosis between heart disease and effort syndrome

History—M H woman aged 28 single machine operator at a box factory, reported that she had always felt run-down and had become very tired operating a heavy machine which she had done for the last eight years Two years before after a hard day she fainted and had palpitation No more fainting attacks had occurred but there had often been palpitation, exhaustion and dyspnea especially after exertion or excitement Needle-like precordial pains occurred with the palpitation beginning with the first attack two years before The pain never extended to the back or arms There was no history of fever loss of weight cough or hemoptysis The palpitation consisted of pounding of the heart at times irregular, like a double beat felt in the chest and head Running for a car would sometimes start an attack of palpitation The patient had always been easily excited was very nervous and 'trembly', and this condition had grown gradually worse Two years ago she went to a physician and was told she had 'bowel trouble, not heart trouble' She had not worked for the past three months and had been in bed off and on She felt more exhausted and her heart seemed weaker in the morning than in the evening

There was no history of infection of the rheumatic type

The father died young the mother was living but was very nervous

Physical Examination—There was no cyanosis The thyroid gland was palpable but not definitely enlarged No exophthalmos A slight tremor was noted Knee jerks were very active No cardiac enlargement could be made out rhythm was regular at rate of 98 there was a soft systolic murmur at the base the first sound at the apex was very loud and accentuated by exercise no diastolic murmur could be heard the heart action was forcible The pulse was normal Blood pressure readings were 110 systolic and 80 diastolic The Wassermann test was negative The blood findings were hemoglobin 75 per cent, red blood cells 4 600 000 per cubic millimeter

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[3] Lewis Thomas On Cardinal Principles in Cardiological Practice Brit M J 2 621 (Nov 15) 1919

[4] Meredith F L Functional Heart Disturbances in Women Boston M & S J **181** 734 (Dec 25) 1919

[5] Neuhof S The Irritable Heart in General Practice Arch Int Med **24** 51 (July) 1919

Diagnosis—This case was diagnosed "double mitral disease," that is, mitral stenosis, because of the symptoms, the pounding heart action and the suspicion of a presystolic murmur The whole picture is that of nervousness with the effort syndrome

COMMENT

The differential diagnosis in young people between heart disease and nervousness, or the so-called "effort syndrome," is in need of great emphasis at the present time This is particularly true in the case of young women, who are probably more susceptible in civil life to the condition than are young men

RUPTURED ECTOPIC PREGNANCY IN UTERINE CORNU

AFTER SALPINGECTOMY FOR PREVIOUS TUBAL PREGNANCY [*]

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REPORT OF CASE

A woman aged 30, admitted to St Luke's Hospital in December, 1916, had had a severe abdominal pain about four hours before admission, and had fainted On admission, she was in shock and was bathed in cold perspiration, the pulse was almost imperceptible, but could be counted at the apex with the stethoscope the heart rate being 152 a minute The abdomen showed a boardlike rigidity There was a mass in the left fornix and as the patient had skipped her last menstrual period a diagnosis of ruptured ectopic pregnancy was made As her condition was becoming worse rather than better, she was operated on without delay

Hypodermoclysis needles were inserted under both breasts before the administration of nitrous oxid gas A midline incision was rapidly made The abdomen was found full of blood The bleeding ruptured left tube, together with the ovary, was removed At the same time an assistant was removing a liter of blood from the patient's husband, and this was given to the patient by the citrate method without waiting for the usual grouping tests, in view of the patient's condition She made an uneventful recovery

More than two years later, March 6 1919, the patient had a similar attack except that the symptoms were not so severe as in the previous attack By vaginal examination marked tenderness could be demonstrated in both fornices, and the right ovary could be felt somewhat enlarged As she was twelve days past her menstrual period, all other periods in the past two years being regular, it was believed that she had a ruptured pregnancy in the remaining right tube

At operation the abdomen was again found to contain a considerable quantity of blood with bright red blood coming up from the pelvis The right tube and ovary were brought up into the wound, and except for a large corpus luteum cyst in the ovary, were found normal It was then discovered that at the left cornu of the uterus, where the tube had been removed at the operation previously, there was a ragged raw bleeding area, which evidently represented a ruptured ectopic pregnancy No ovum was found, but on the edge of the raw area was a small peritoneal cyst filled with clear fluid and lined with flattened epithelium An effort was made to introduce a probe through this area, but no communication with the cavity of the uterus could be demonstrated The raw area was closed by sutures through the uterine tissue

COMMENT

Ectopic pregnancy occurring in a remaining tube, after salpingectomy in the other side, is not an uncommon occurrence Rongy,[1] in an article on ectopic gestation based on a study of 100 cases, reported twelve cases of repeated ectopic pregnancies included in this series He quotes Smith and Rabinowitz, who have made a study of 2,998 cases of ectopic gestation, in which there were 113 cases of recurrent ectopic pregnancy, or 3 8 per cent In all probability, as suggested in the article mentioned, if the subsequent history of these primary cases could be followed for a sufficient time, this percentage would be larger This brings up the question of the advisability of the suggestion, that, in a woman, who has borne three or more children, the danger of a repeated ectopic pregnancy be explained to the patient, with the idea of obtaining consent for the resection or ligation of the remaining tube at the time of operation for the ruptured ectopic gestation

The case reported furnishes an interesting conjecture as to how the impregnation occurred The first operation was done rapidly, as circumstances required The tube was tied close to the uterine cornu and removed, no attempt being made to excise a wedge-shaped portion of the uterine cornu At the second operation, all evidence as to whether a sufficient amount of stump had been left to allow an ostium to become patent again was removed by the rupture that had occurred

The question remains, How did the fecundated ovum become attached to this point? Did it pass down the right tube and across the cavity of the uterus and attempt to enter the remains of the left tube, and if so should it not have been possible to find a communication with the uterine cavity with the probe? If this did not occur, it must have reached its point of attachment by means of the peritoneal cavity, in which case it is of considerable interest to conjecture where it became fecundated and how or why it became attached to the remaining stump of the resected tube

568 Park Avenue

ACUTE RESPIRATORY DISEASE CARRIERS [*]

LESLEY H SPOONER, M D
BOSTON

The prevalence of respiratory infection, especially among young adults, has been the subject of many statistical reports Vaughan and Palmer[1] have shown that for the six winter months of 1915, 43 per cent of the deaths occurring in the United States between the ages of 20 and 29 were due to this cause The interest aroused in the subject was increased on mobilization of our troops during the winter months of 1917 and 1918 Covering a similar period, 77 per cent of the deaths among the troops of approximately the same age as quoted above resulted from respiratory infection

In this group it was shown that the organisms which I shall discuss were of great importance Pneumonia was twelve times more prevalent in the army than in civil life, meningitis forty-five times, and diphtheria two times Although the etiologic factors of measles and scarlet fever remain unknown, the streptococcus is well known as an organism of importance in the production of dangerous complications and sequelae The same report states that measles was nineteen and

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[*] Read before the Alumni of the Sloane Hospital for Women, Jan 23 1920

[1] Rongy A J Am J Obst 77 86 (Jan) 1918

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[*] Read before the New England Oto Laryngological Association, Nov 19 1919

[1] Vaughan and Palmer Report from Section of Communicable Disease, Division of Sanitation, Surgeon General's Office

scarlet fever six times more prevalent in the military than in the civil population.

Since the discovery by Pasteur that the pneumococcus could be cultivated from the saliva of healthy persons, various other organisms, the etiologic factors of respiratory infection, have been demonstrated on the normal mucous membrane. The significance of the presence of these bacteria was not realized at first, except to throw doubt on the etiology of certain of these diseases. Later, however, it became well recognized that persons harboring such organisms were factors in the spread of infectious diseases. To such individuals has been applied the term "carriers."

In many instances the organism may be only temporarily present, and in others it may be a constant inhabitant of the respiratory tract. This division of carriers into the transient, and the persistent or chronic groups, will be considered later. The most important classification seems to me to depend on the manner in which the organisms become planted on the mucous membrane of the carrier. It has long been known that the presence of any of these bacteria was no proof of previous infection by that organism. To this group I apply the term the "healthy carrier." Cole has shown that after infection by the pneumococcus, from 12 to 13 per cent. of those infected with Types I and II remain as bearers of those specific cocci. A similar condition follows infection by *Bacillus diphtheriae* and the meningococcus. This group will be referred to as the "diseased carrier." Still another consideration is the virulence of the organism isolated from the carrier. This appears to be of less significance than the latter, since the temporarily avirulent organism may, when implanted on fresh soil, regain its lost virulence.

In this paper I shall consider the four most important organisms that are the etiologic factors of acute respiratory infection. These are the pneumococcus, *Bacillus diphtheriae,* the meningococcus, and the streptococcus.

PNEUMOCOCCUS

Cole,[2] after an intensive study at the Rockefeller Hospital on acute lobar pneumonia points out that the four types of the pneumococcus may be reclassified according to their occurrence in carriers into two general subdivisions: the truly parasitic and the primarily saprophytic pneumococci. Types I and II fall into the former division, Types III and IV into the latter. He was able to isolate from a series of 297 healthy persons, not exposed to the disease nor giving history of respiratory infection, a member of the parasitic group only once—a percentage of 0.33. On the other hand, the same series showed the saprophytic group[3] in 115 persons, a percentage of 39. Following lobar pneumonia caused by the Type I pneumococcus, on the other hand, he succeeded in recovering that organism late in convalescence in 13.1 per cent., and the Type II organism following that specific infection in 12.1 per cent. It is not to be inferred that Types III and IV are essentially saprophytic organisms, since together I found them as etiologic factors in approximately 63 per cent. of more than 1,300 cases of lobar pneumonia which I studied. The fact remains that of the truly parasitic group which was responsible for 37 per cent. of my cases, the "healthy carrier" was essentially unknown.

In a study of the correlation of the types of pneumococci obtained from the circulating blood and the sputum in lobar pneumonia, I was able to demonstrate certain changes in the respiratory flora which further suggest the separation of the pneumococcus into parasitic and saprophytic groups. In several instances, the types recovered from the sputum in the later stages of the disease changed from the parasitic group, which had earlier been found in both blood and sputum, to the saprophytic group. From this fact it seems at least suggestive that in Types III and IV there are certain harmless strains, while other members, presenting the same serologic reaction, are frequent factors in the production of pneumonia. It is fair to assume that the convalescent pneumonia patient is a far greater source of danger, in regard to the spread of infection than the healthy person, even though the latter is a bearer of the pneumococcus.

Epidemiologic studies of pneumonia in our large camps during the recent war have shown most interesting outbreaks of the various types of the disease. I was fortunate enough to be able to observe such waves of infection at Camp Devens. In the winter and spring of 1917 and 1918, the infection was caused largely by Type IV. This was followed by an outbreak of Type I, especially among two battalions of negroes who had recently arrived from Florida. This was succeeded by a preponderance of Type II cases, which was again followed by Type IV. During this period the usual sporadic cases were found showing the classical percentage of types. These waves of infection, or small epidemics, can be explained best by infection from the individual in the early stages of pneumonia or from the diseased carrier during late convalescence.

The presence of the pneumococcus in the sinuses, incident to recent acute or present subacute infection, is doubtless of great importance in connection with the spread of disease, but my experience on the subject is too limited to warrant any conclusion.

BACILLUS DIPHTHERIAE

The Klebs-Loeffler bacillus, like the pneumococcus, has long been recognized as a possible inhabitant of the healthy throat. During a period of ten months, my laboratory at Camp Devens examined 3,800 contacts with cases of diphtheria. On the diagnosis by the laboratory of a case of that disease, all members of the patient's company were brought to the laboratory and cultures made at once on Loeffler's blood serum.

Of the 3,800 persons examined, 140 positive carriers were detected, a percentage of 3.7. In a paper published last year[4] I said:

> The healthy carrier may according to the experience of this laboratory be divided into two classes: the transient and the persistent carriers. In the search for diphtheria carriers it was necessary to rely for diagnosis on the microscopic morphology and staining reaction of the organisms and the relative number of such bacilli. Limits of time personnel and material prevented more elaborate cultural differentiation animal inoculation etc. In order to safeguard as far as practicable against error in this report the following requisites for diagnosis were insisted on:
>
> First the suspected type of organism must be present in at least moderate number in the preparation; second, the *diagnosis must be made independently by three trained mem*bers of the staff or personnel.

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[2] Avery Chickering Cole and Dochez Monograph 7, Rockefeller Institute for Medical Research 1917.

[3] The saprophytic group included in addition to Types III and IV the atypical Type II organisms which Cole has shown are more closely allied to those groups than to the typical Type II.

[4] Spooner L H The Base Hospital Laboratory Mil Surgeon 44 5 (Jan) 1919.

It seems wise to make this detailed technical statement in order that the results of this investigation may be taken at their proper value

The daily examination of cultures from the throats of the carriers yielded interesting results Of the 140, 121, or 86 per cent, showed negative cultures within five days of isolation To this large group I apply the name 'transient carrier" Fourteen, or 10 per cent, showed organisms present between six and fifteen days following isolation These might be classified as an intermediate group Five, or 4 per cent, showed cultures positive over a period longer than fifteen days, the actual time being seventeen, twenty-one, sixty-two, seventy-five[5] and eighty-five days respectively From these figures it may be concluded that 3 7 per cent of contacts were found to be carriers, and that of the latter, only 14 per cent were of practical epidemiologic importance, since the presence of bacilli in the throat of the remaining 86 per cent was so transient In other words, only 0 5 per cent of those examined were significant carriers, harboring bacilli longer than five days, and only 0 1 per cent were proved to be true chronic carriers The transient carrier has an added significance in time of epidemic, although his importance in the dissemination of disease is not considerable under ordinary conditions

The process of disinfection of all but the chronic carrier was too simple to warrant more than passing note It consisted of rest, fresh air, house diet, and generally no local treatment, although occasionally bland mouth washes and gargles were employed care being taken that their use did not interfere with the cultural results The release from quarantine and the negative findings referred to in these statistics were gaged by three negative cultures, from the nose and throat, taken on successive days

The "diseased carrier," the convalescent from diphtheria, presented a very different laboratory picture In this case the persistence of positive cultures was always pronounced, and more radical steps, such as tonsillectomy and nasal operations, were often resorted to These were frequently followed by a disappearance of the organism, which was unfortunately not always permanent One case in particular deserves a brief note

On admission, a soldier presented moderate constitutional symptoms and a small membrane on the left tonsil Cultures from the latter revealed *B diphtheriae* After appropriate serum therapy the constitutional reaction and the membrane disappeared but the bacilli remained Daily cultures from each tonsil each nostril and the postnasal space showed negative results in every instance, save that of the left tonsil cultures from which remained positive for from six to eight weeks At that time the tonsil was removed in the usual manner During his convalescence from this operation, negative cultures were obtained from all sources After a week however the left tonsillar fossa showed positive cultures, which continued with as much persistence as before the operation At last the patient was discharged from the hospital on the grounds of the nonvirulence of the organism

From these observations I conclude that

1 The chronic healthy diphtheria carrier is very rare

2 Although the sterilization of his mucous membrane is difficult, it is easier than that of the chronic disease carrier

3 He and his fellow, suffering from the early stages of acute infection, are the potent factors in the spread of this disease

MENINGOCOCCUS

When Weichselbaum identified the meningococcus in the spinal fluid in epidemic cerebrospinal meningitis, it was supposed that the infection was restricted to the meninges At present it is recognized as a septicemia The organism gains entrance through the upper respiratory tract, and may be found in the postnasal space of both the healthy carrier and the person sick with the disease

During the recent war the marked increase in this form of meningitis was the cause of a considerable disquietude in the Office of the Surgeon-General As a natural consequence, the search for meningococcus carriers was carried out in a most elaborate and painstaking manner on all disease contacts My experience revealed a low percentage of healthy carriers, 1 3 per cent of 3,647 being detected, although the percentage of a limited group ran to 6 9 per cent of 116 who had been in most intimate contact with infected subjects It is, of course, impossible to state whether these carriers were responsible for the infection, or whether, as seems more likely, they became carriers because of close exposure to the disease

In the South this form of meningitis is more prevalent than in this latitude As Vaughan and Palmer have shown that the soil from which troops were drawn governs the prevalence of infectious disease, it follows that the Southern camps presented a high meningitis morbidity At the same time the percentage of healthy carriers detected in those cantonments was correspondingly high Here again it is difficult to assign any epidemiologic significance to the carrier

We are confronted with a problem, which, technical though it may be, has a marked bearing on the interpretation of all results on this work The cultivation of the meningococcus is difficult even from spinal fluid, but this difficulty is greatly increased when the organism is mixed with the usual saprophytic bacteria of the postnasal space This tends to reduce the number of positive findings On the other hand, it often rendered necessary the diagnosis of carriers from a relatively small number of organisms The inevitable result is the diagnosis as carriers of many who harbor what might reasonably be considered an insignificant number of meningococci This point is strengthened by a consideration of the response to treatment

The usual method of disinfection was through the use of postnasal sprays of dichloramin-T In the case of all our healthy carriers, the results of this treatment were most striking The regulation for release consisted of three consecutive negative cultures taken at three-day intervals In the case of the healthy carrier, the maximum period of isolation was twelve days[6]

As I have stated above, the clinical meningitis patient is also a carrier of the organism in the postnasal space during the disease and convalescence These diseased carriers were disinfected with greater difficulty The maximum period of isolation was forty-three days

The group of chronic healthy carriers, as in the case of diphtheria, is a small one None typical of this type were detected among 3,647 contacts They present two characteristics which differentiate them from the type that was identified in my laboratory They harbor the meningococcus in almost pure culture, and defy the utmost measures of disinfection I observed such a group, consisting of perhaps a dozen men drawn from our entire army, when visiting the Rockefeller Hospital in May, 1918 From these observations it seems fair to conclude that the chronic healthy carrier of the meningococcus is rare, and that the important bearer of infection is the diseased carrier

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[5] At the time of preparation of the paper referred to in Note 4 this patient was in the hospital showing positive cultures

[6] This excluded one carrier whose isolation lasted seventeen days He should be classified in an intermediate group since the original examination revealed an almost pure culture of the meningococcus The latter characteristic belongs to the chronic type, although the period of isolation prevents him from being classified as such

During the epidemic of influenza which swept Camp Devens during the latter part of September and October, 1918, a peculiar outbreak of epidemic cerebrospinal meningitis took place In less than four weeks, twenty-two cases of this disease had developed in a camp that had shown only twenty cases during the ten months from October, 1917, to August, 1918 The most striking element in this outbreak lay in the fact that fourteen of the twenty-two patients (64 per cent.) had been confined in the hospital with influenza five days or more prior to manifestation of the earliest symptoms of meningitis Twelve (55 per cent) had been patients for nine days or more before onset of this infection

The following facts were brought out after an intensive study of the situation The twenty-two cases represented eighteen separate camp organizations, which were in no way in close contact with one another In spite of the crowded condition of the camp, in only three instances did multiple infection exist In none of these could camp contact be satisfactorily demonstrated to an extent warranting any epidemiologic conclusions

Two cases arose in A Company, 212th Engineers, of these one had been in the hospital ten and the second thirteen days prior to manifestation of symptoms Of the two cases in the 31st Company, Depot Brigade, one had been confined to the hospital five, the second, twenty-three days In the 14th Company, Depot Brigade, in which three cases developed, one was admitted sick with the disease, the second had been confined for nine, and the third for thirteen days A comparison between the dates of manifestation of symptoms and of admission to the hospital shows that in the case of only one organization—the 212th Engineers—could the patients have been in personal contact within at least one week prior to onset of symptoms

A study of the distribution of cases throughout the hospital shows that among those who evidently had developed the disease within the hospital, no two cases were found in the same ward The frequent change of patients from ward to ward during the stress of the epidemic did not alter this unique record Of the medical staff, hospital personnel, and nurses in those sixteen wards, as well as of the patients in contact with the case, cultures were taken with the utmost care Of 586 contacts only twelve, or 2 per cent, were found to be healthy carriers Similar cultures taken from the possible camp contacts showed nineteen carriers out of 1,061 examined, a percentage of 1 8 It is of interest to note that in the 14th Company Depot Brigade, to which organization three patients belonged, no carriers were discovered among 219 examined

Since no appreciable increase in the number of carriers was found among hospital contacts and in the organizations to which these cases belonged, and fact since in the one to which were attached the la number, none were discovered, and as there was a wide distribution of cases through the camp as well as in the hospital, and such a large number developed the disease in the hospital after a lapse of time generally accepted as the incubation period of meningitis it seems reasonable to consider these cases as possible autoinfections of the carrier Although no absolute proof of this point has been produced, it seems rational to consider that these persons, whose vitality had been lowered by an attack of influenza, yielded in this manner to infection with the meningococcus I will add that I have the informal statement from the Office of the Surgeon-General that such an outbreak took place in three other base hospitals in this country

STREPTOCOCCUS

In civil life the streptococcus is an important factor in the production of septic sore throat, septicemia and more localized surgical infections Its role in connection with pneumonia should not be neglected In the army, however, it was found to be one of the most dreaded of infectious organisms Bronchopneumonia either due to the streptococcus in the form of primary infection, or secondary to measles, with the resulting empyema and pericarditis, was responsible for the highest mortality in Southern camps Primary and secondary infection of wounds by this organism was also of utmost importance

The regional distribution of the streptococcus was fully as striking as in the case of the meningococcus

Although many strains of the organism have been isolated, *Streptococcus hemolyticus* was almost universally found in connection with respiratory as well as with wound, infection

In the spring of 1918, a considerable number of cases of postmeasles streptococcus pneumonia were reported through my laboratory This organism was also frequently demonstrated in postpneumonic empyema during that period and throughout the summer Following the influenza epidemic, even larger proportions of the postpneumonic empyemas showed this organism, always in the role of a secondary invader Toward the close of 1918, in a few returned wounded soldiers the organism was demonstrated in chronic sinuses and areas of bone destruction With these exceptions, infection by *Streptococcus hemolyticus* was relatively rare throughout Camp Devens during the first fifteen months of its existence

This preliminary statement is of importance in the consideration of my investigation on suspected carriers of this organism, which, it must be borne in mind was terminated before the influenza epidemic or the return of wounded troops noted above

During the winter of 1917-1918, cultures were taken of 100 Medical Reserve Corps officers stationed at the base hospital Cotton swabs were applied to the tonsils, and with this material the water of condensation of Loeffler's blood serum was impregnated Diagnosis was made by microscopic morphology In this series 60 per cent were found to be streptococcus carriers A similar investigation on the nurses at the same hospital revealed 68 per cent of sixty examined A smaller group of regu [illegible] al surgeons stationed througho [illegible] stigated by the same
h [illegible] cent of [illegible] lthy
[illegible] ult [illegible] n

the hospital environment played a role in the production of carriers, it is difficult to decide The former seems to me the more rational solution

As it was realized that the technic was faulty, the next series was thus investigated Swabs were planted directly on blood agar plates,[7] and after twenty-four hours' incubation the microscopic morphology of typical hemolytic colonies was studied This series covered 140 officers, about 75 per cent of whom were included in the first investigation The same process was repeated twice at three to four week intervals The migratory life of the army officer prevented the completion of observation in all the group This incompleteness tended to lower the percentage, which I believe would have been even more striking had the work been performed on a stationary body

Of 140 officers of whom cultures were taken, 83 per cent were positive on at least one examination, 25 per cent showed *Streptococcus hemolyticus* in appreciable numbers on three or more trials, and only 17 per cent were consistently negative These figures indicate that the transient streptococcus carrier is very common and that the persistent carrier—I believe had my investigation been carried out over a longer period the term chronic carrier would have been appropriate—is also common

When these facts are considered in the light of the scarcity of primary streptococcus disease at this hospital and the absence during their entire residence at that post of such infection among the Medical Corps officers, the importance of the streptococcus carrier, as an etiologic factor in the origin and spread of that infection, becomes parallel to that of the pneumococcus carrier Another analogy to that organism lies in the recent work on streptococcus grouping, which will probably separate these organisms into parasitic and saprophytic groups similar to those of the pneumococcus

It is my opinion that in the case of the streptococcus, healthy and diseased carriers bear the same relation to the health of the community as exists with the other organisms just discussed

CONCLUSIONS

1 Acute respiratory disease is at present the greatest menace to the youth of our country

2 It is more serious in the army than in civil life

3 The transient healthy carrier is more common than should be expected from the incidence of the specific disease

4 This transient quality is shown by the disappearance of the organism without treatment

5 The chronic healthy carrier is rare, except in the case of the "saprophytic pneumococcus" of Cole, in which many of the organisms may be nonpathogenic, and with *Streptococcus hemolyticus*, in which a similar condition may well exist

6 The potent factors in the spread of these diseases rest in this small group of chronic healthy carriers and the diseased carrier

7 The latter, during the prodromal stages of disease and convalescence, is of by far the greatest importance

8 They respond to attempts at disinfection even less satisfactorily than do the chronic healthy carriers

520 Commonwealth Avenue

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[7] To meat infusion agar is added 10 per cent sterile defibrinated human blood and the mixture plated

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ELECTRICAL STIMULATION OF PERIPHERAL NERVES EXPOSED AT OPERATION

SURGICAL VALUE

WALTER M KRAUS, A M, M D
NEW YORK
AND
SAMUEL D INGHAM, M D
PHILADELPHIA

The occurrence during the war of large numbers of nerve lesions of traumatic origin has stimulated the investigation of nerve function by various methods, among which that of electrical stimulation is of recognized importance Operations for the correction of these lesions have furnished the opportunity for the direct stimulation of exposed nerve trunks, pathologic and normal, by which means extremely important information may be gained This paper is based on such observations in a series of seventy-three cases in which operation was performed in the service of Lieut -Col C H Frazier at U S Army General Hospital No 11, Cape May, N J, and U S Army General Hospital No 41, Fox Hills, N Y, and aims at presenting general conclusions and such other data as may be of interest to the surgeon The case reports, with more detailed anatomic and theoretical consideration, will be embodied in another paper

TECHNIC

As soon as nerves are freed at operation, those of the leg are oriented at a point distal to the lesion by a black silk thread passed through the sheath on their posterior aspect, and proximal to the lesion by a white thread similarly placed The arm nerves are oriented in the same way on the anterior aspect This permits proper orientation for stimulation, suture and pathologic examination

The stimulating electrode (Fig 1) used was bipolar and was devised by one of us (W M K) following the principle of the French investigator, Henri Meige It is rather simple Two strands of No 2 copper wire about 2 yards long are strung with small glass beads for insulation The two strings of beads are placed in a glass tube 8 inches long, whose edges are well rounded, and are held in position by nonvulcanized rubber Another modification of the electrode is as follows At a point, about 1½ inches from the handle end of the tube, a slight indenture is made by drawing the tube out a bit The beaded wires are drawn toward the stimulating end and a rubber band is placed over them at the indenture, thus holding them in place The beaded wires are then allowed to trail off in their original direction (Fig 1) The stimulating ends of the electrode are twisted back on themselves, thus making a loop This avoids trauma to the nerves This electrode may be readily sterilized The battery used was the Harvard inductorium, No 20, made by the Harvard Inductorium Company, Boston (Fig 2) The freed nerve is held by a glass rod with a curved end which permits it to rest as in a cradle The strength of the current is best taken as that which will produce a minimal contraction in a neighboring muscle This rarely fails to cause stimulation of the nerve The stimulation should always be applied both below and above the lesion Normal nerves require much less current than abnormal The stimulating is done with the electrodes placed longitudinally on the nerve—this to avoid diffusion as much as possible The sequence is posterior side, internal, anterior, external The surgeon while stimulating calls out the aspect of the nerve he is working on, in order to avoid confusion The muscles stimulated are observed by another man In stimulating the arm nerves it is better to use the terms radial and ulnar than internal and external It has been found valuable to have nerve maps in the operating room for reference The findings are directly recorded on circular charts

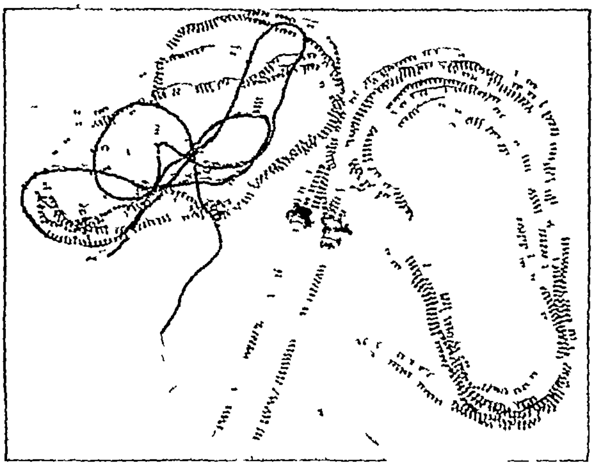


Fig 1 —Stimulating electrode

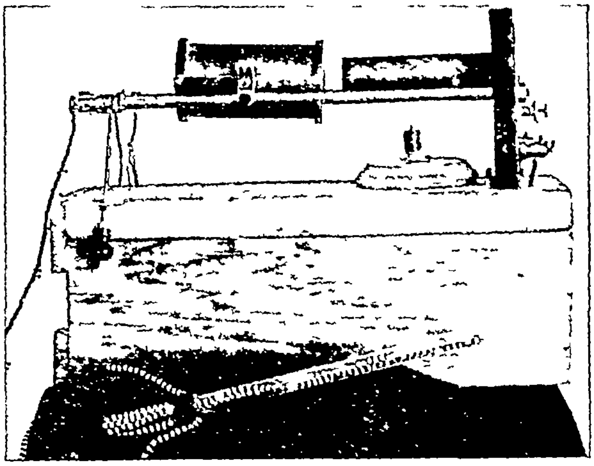


Fig 2 —Battery

VALUE OF THE METHOD TO THE SURGEON

The surgical aspects of this subject are of considerable importance, not only because of the increased accuracy of diagnosis and of surgical manipulation which a better knowledge of topography insures, but also because direct electrical stimulation of nerves exposed at operation is of material aid to the surgeon in estimating the degree of nerve injury and in facilitating operative procedure It enables him easily and quickly to identify normal nerves, often a difficult matter otherwise, especially when the normal anatomic relations are disturbed by pathologic conditions Again, direct electrical stimulation is the most dependable means of determining conductivity in motor nerves which have been injured but not interrupted, as in the case of compression

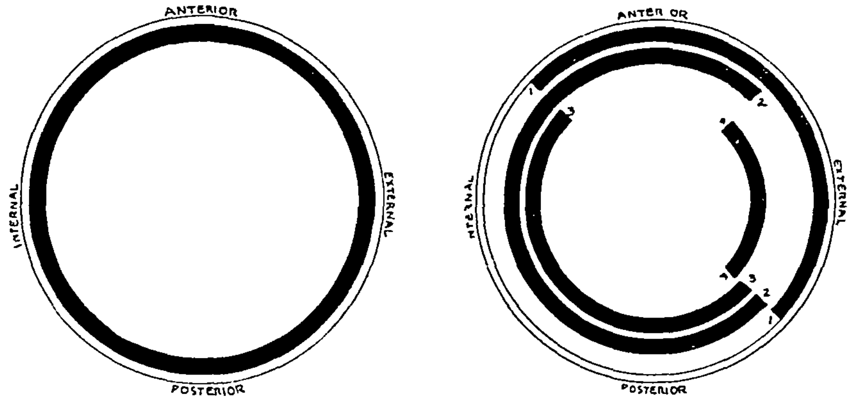
ELECTRIC PHENOMENA

We are all familiar with the paradoxical phenomenon of Erb, most frequently found in compression palsy of the musculospiral nerve from the use of crutches In this condition the nerve conducts impulses when it is stimulated through the skin below the area of compression, but this area acts as an area of decrement, and its muscles cannot be made to react when the nerve is stimulated through the skin above the point of compression We have found that in some cases the nerve

NUMBER OF REACTIONS IN NERVES AND MUSCLES IN FIFTY-SIX OPERATIVE CASES

	Case Numbers	Nerve	Muscles and Sensations	Total
I Brachial plexus	5 41	5		
1 Pectoralis major			1	
				1
II Median nerve				
(a) Inner head	31	1		
(b) Outer head	11 31	2		
(c) Trunk	2 3 9 13 16 17 19 26 27 30 36 43 44 45 50 53 57 69	18		
1 Pronator radii teres			14	
2 Flexor carpi radialis			12	
3 Palmaris longus			3	
4 Flexors of the fingers			11	
5 Flexor longus pollicis			7	
6 Pronator quadratus			2	
7 Abductor pollicis			2	
8 Opponens pollicis			1	
9 Lumbricales			1	
10 Sensory			1	
				54
III Ulnar nerve	3 8 11 13 16 18 27 28 42 43 45 49 50 60 66	16		
1 Flexor carpi ulnaris			11	
2 Flexor profundus digitorum			10	
3 Adductor pollicis			5	
4 Interossei			5	
5 Hypothenars			4	
6 Sensory			1	
				36
IV Circumflex nerve	39	1		
1 Deltoid			2	
				2
V Musculospiral nerve	15 22 31 33	4		
1 Triceps			4	
2 Supinator longus			2	
3 Extensor carpi radialis			2	
4 Extensors of the fingers			1	
				9
VI Sciatic nerve				
(a) Internal popliteal division	12 20 23 24 63 64	6		
1 Hamstrings			4	
2 Gastrocnemius			3	
3 Tibialis posticus			2	
4 Flexor longus digitorum			2	
5 Flexor longus hallucis			2	
6 Intrinsics			0	
				13
(b) External popliteal division	14 [illegible] [illegible]	3		
1 Peronei			3	
2 Tibialis anticus			2	
3 Extensor digitorum			1	
4 Extensor hallucis			1	
				7
VII Internal popliteal nerve	1 [illegible] [illegible] 10 40 51 52 54 56 58 63 64 65	13		
1 Hamstrings			2	
2 Gastrocnemius and soleus			9	
3 Tibialis posticus			10	
4 Flexor longus digitorum			[illegible]	
5 Flexor longus hallucis			4	
6 Intrinsics			2	
				[illegible]
VIII External popliteal nerve	10 14 38 46	4		
1 Peronei			4	
2 Tibialis anticus			1	
3 Extensor digitorum			1	
4 Extensor hallucis			1	
				7
Total		73		161

and its muscles are quite unresponsive to electrical stimulation at all points through the skin, while direct stimulation of the nerve trunk at operation causes muscle reaction We have also observed all of the conditions of Erb's reaction elicited by direct stimulation of the exposed nerve



A

B

Fig 3 —Heads of the median nerve *A* external (6 and 7) pronator radii teres *B* internal (8 and 1) 1, flexor carpi radialis 2 flexion of the fingers 3 flexion of the thumb 4, abductor pollicis

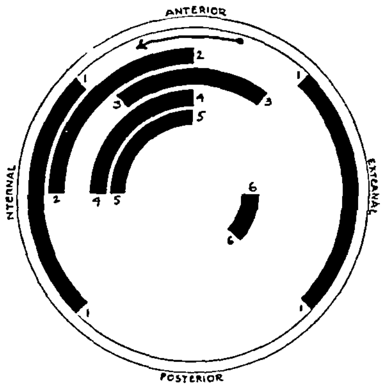


Fig 4 —Median nerve midarm level 1 pronator radii teres 2 flexor carpi radialis 3 palmaris longus 4 flexores digitorum 5, flexor pollicis 6 pronator quadratus

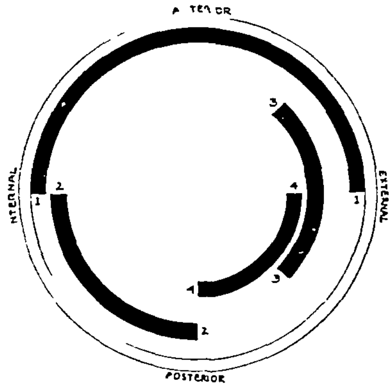


Fig 5 —Median nerve midforearm level 1, sensory 2 opponens pollicis 3 abductor pollicis 4 lumbricales

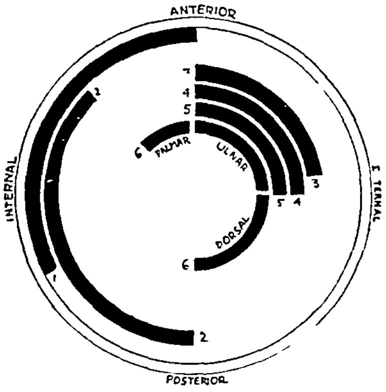


Fig 6 —Ulnar nerve 1 flexor carpi ulnaris 2 flexor profundus digitorum 3 hypothenars 4 interossei 5 adductor pollicis 6 sensory

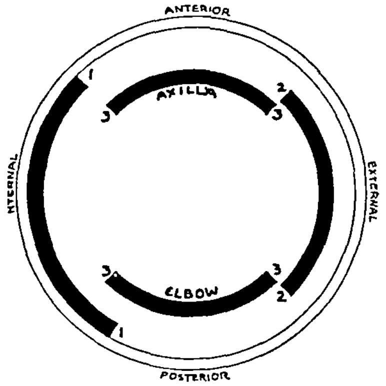


Fig 7 —Musculospiral nerve 1 triceps 2 supinator longus 3 extensor carpi radialis

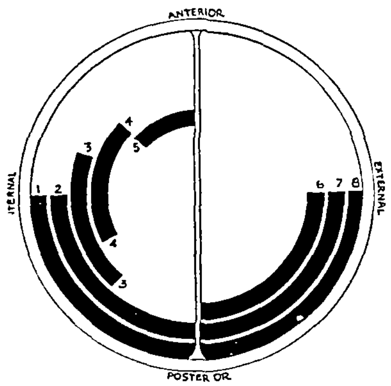


Fig 8 —Sciatic nerve 1 hamstrings 2 gastrocnemius and soleus 3 flexor longus hallucis 4 flexor longus digitorum 5 tibialis posticus 6 peronei 7 tibialis anticus 8 extensors of the toes

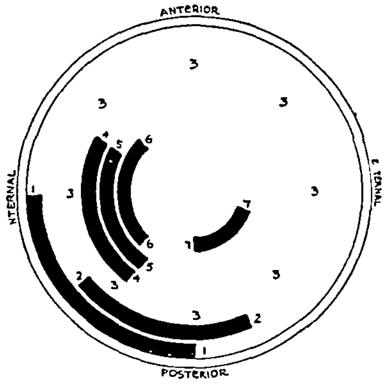


Fig 9 —Internal popliteal nerve 1 hamstrings 2 gastrocnemius 3 tibialis posticus 4 flexor longus digitorum 5 flexor longus hallucis 6 intrinsics 7 flexor brevis hallucis

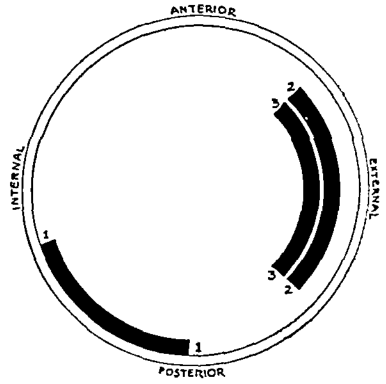


Fig 10 —External popliteal nerves, 1 peronei 2 tibialis anticus 3 extensors of the toes

Summarizing the phenomena due to areas of decrement which we observed, we have

1 Erb's indirect, or percutaneous, paradoxical phenomenon

2 A direct paradoxical phenomenon, from stimulation of the nerve trunk

3 A phenomenon of difference between percutaneous and direct stimulation

The explanation of the last mentioned phenomenon appears to be simple The direct stimulation of an exposed nerve is stronger and less diffused, and suffices to overcome the decrement in conduction produced by the lesion, while stimulation through the skin does not

The surgical importance of these reactions is obvious Where conductivity can be demonstrated, nerves or portions of nerves can be conserved which might otherwise be considered as completely interrupted and consequently subjected to unnecessary operative resection and suture Finally, the free ends of nerves that have been completely interrupted can be identified in the recent stage of injury, that is, until secondary degeneration develops In cases in which it is of interest to cut the fibers to some muscles, let us say the gastrocnemius and soleus group, as in Little's disease, or when a transplantation is desired, say of the triceps fibers into the circumflex nerve, it is essential to use electrodes

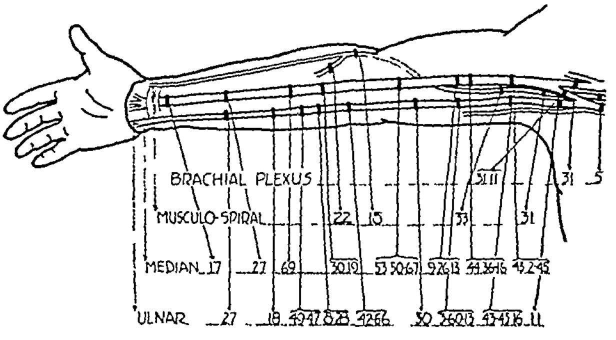


Fig 11 —Levels of stimulation of the main arm nerves and their branches

RESULTS OF STIMULATION IN SEVENTY-THREE CASES

The results obtained have been combined for each nerve and are represented on the accompanying charts (Figs 3, 4, 5, 6, 7, 8, 9 and 10) The black areas represent the responsive area on the circumference of the nerve, namely, the area in which faradization caused muscle contraction The arrow in Figure 4 indicates that the fibers to the pronator radii teres muscle cross from the external aspect to the internal aspect of the median nerve on its anterior surface, the extent of the crossing being several inches in the midarm portion of the nerve The absence of a black line to represent the position of the fibers for the tibialis posticus in Figure 9, and the location of the numbers throughout the circumference, indicate that we were unable to localize definitely the fibers to this muscle, but found them on all aspects of the nerve in different cases This was the only exception to the rule that the fibers to a given muscle pursued a straight course from the plexus to the point of branching The charts of the circumferential position of various bundles represent the results of stimulation at various levels (Figs 11 and 12)

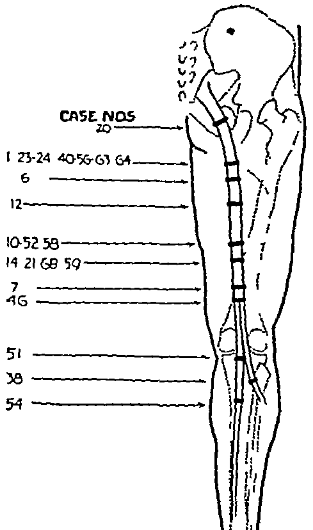


Fig 12 —Levels of stimulation of the sciatic nerve and its branches

CONCLUSION

Electrical stimulation at operation gives important information to the surgeon as to the location of nerves and their degree of abnormality due to injury

It serves as an indispensable guide to operative manipulations

It is a means by which we may add to our all too scanty knowledge of peripheral nerve anatomy

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RESTORATION OF LOSS OF BONE

INCLUDING AN ANALYSIS OF THE FIRST HUNDRED CASES OF FRACTURE TREATED BY BONE GRAFT AT U S ARMY GENERAL HOSPITAL NO 3 COLONIA N J*

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NEW YORK

In the task of restoring loss of bone substance and function in the wide variety of traumatisms resulting from the war, the plastic surgeon is confronted with a correspondingly varied array of mechanical problems The recognition of the underlying biologic and physiologic significance of tissue growth and metabolism is a fundamental requirement in the successful treatment of these cases The surgical repair of bone, and more particularly the use of the bone graft in cases of pseudarthrosis with or without bone loss is based not only on the ultimate establishment of adequate fixation of the bone fragments, but also on the attainment of a proper environment for the nourishment of the graft This entails the exact coaptation of parts of the graft to respective parts of the host bone, in other words, the adequate and extensive contact of all four corresponding bone layers, namely, periosteum, cortex, endosteum and marrow

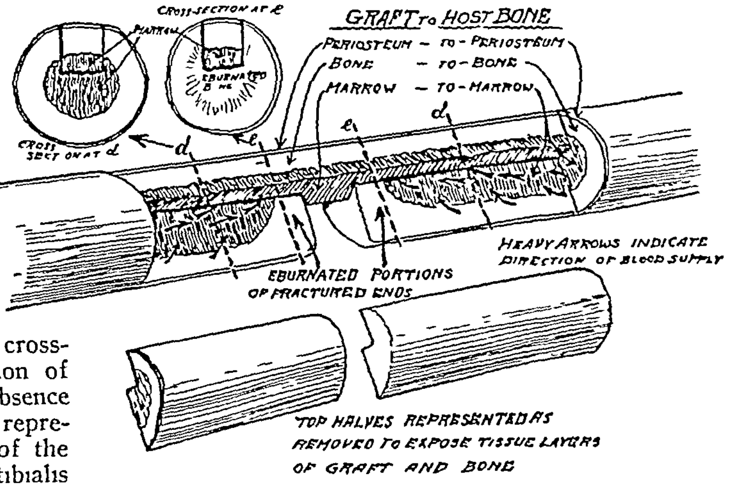
CROSS-SECTION AT E
MARROW
EBURNATED BONE
GRAFT TO HOST BONE
PERIOSTEUM – TO – PERIOSTEUM
BONE – TO – BONE
MARROW – TO – MARROW
CROSS SECT ON AT d
d
e
e
d
HEAVY ARROWS INDICATE DIRECTION OF BLOOD SUPPLY
EBURNATED PORTIONS OF FRACTURED ENDS
TOP HALVES REPRESENTED AS REMOVED TO EXPOSE TISSUE LAYERS OF GRAFT AND BONE

Fig 1 —Requisite apposition of bone layers of graft with respective parts of host bone The graft is of sufficient length to extend well beyond the eburnated area of the host fragments coming into generous contact with the healthy vascular marrow substance The cross section at E shows the eburnated plug of bone where as a rule in pseudarthrosis it closes the marrow cavity in the fractured ends Here the gutter has been deepened sufficiently to receive the full amount of marrow of the graft which is demonstrated (lower drawing and cross section at *D*) in extensive contact with the marrow of the host fragments The arrows on the marrow in the host fragments indicate the direction of blood supply to the graft from its principal normal source namely the marrow substance of the host By the insertion of the inlay with its full amount of marrow a continuous marrow bridge is formed extending from the healthy marrow of both host fragments through the gutter in the eburnated ends This marrow bridge plays a most important role as conductor of blood vessels and osteogenic cells from one host fragment to the other The cross sections at *D* and *E* show also the cabinet maker fit of the inlay graft with the host fragments which not only affords mechanical fixation of parts, but also favors the stimulus to bone growth from frictional irritation, emphasized by Roux

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* Read before the Congress of the Italian Orthopedic Association, Bologna Oct. 18 1919

MECHANICAL STRESS AND BONE GROWTH

Throughout his plastic work, both in civilian practice and army experience, the author has been greatly impressed with the striking influence exerted by mechanical stress on the growth and metabolism of bone In cases of loss of substance of long duration, in the radius, humerus or any long bone, the bone cortex has often become reduced to one-fifth its normal thickness, in fact, almost to eggshell consistency, largely owing to removal of the stimulus of mechanical stress Such a condition is, of course, in direct sequence to the general physiologic law of bone growth, it is, in fact, a magnification of Wolff's law If bone, whose nourishment and blood supply have not been greatly impaired, should suffer so materially as a result of loss of the stimulus of mechanical stress, how much greater must be the effect of the same inhibitory influences on any free bone graft whose blood supply and nourishment are not yet established

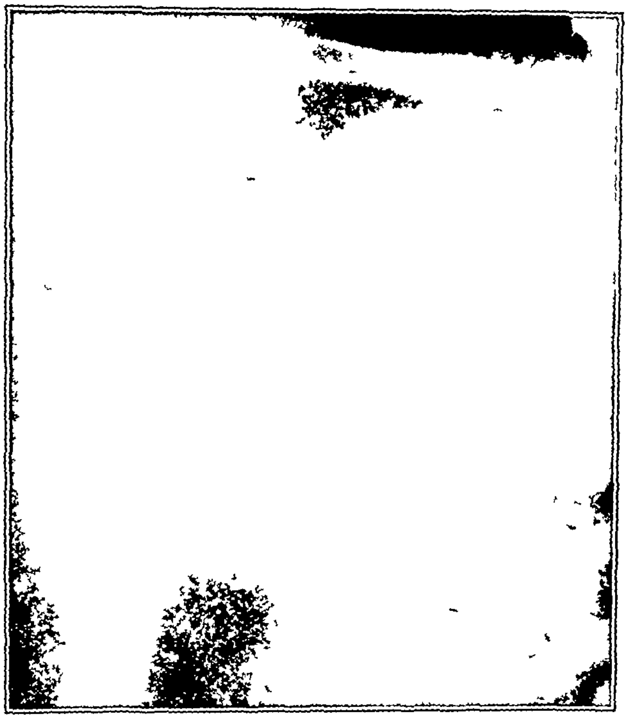

Fig 2 (Case 1) —Wound in which an officer hit at Ourcq River by fragments of a high explosive shell lost about 3½ inches of the upper third of the humerus, including the entire head In this case destruction of practically all the musculature of the shoulder rendered the patient incapable of shoulder motion

A more suitable environment for successful bone growth is established by the cabinet-maker fit of the properly inserted inlay graft than by any other known technic At the same time the biologic laws that obtain in the transplantation of all varieties of tissues are fulfilled, since corresponding tissue-layers are brought in apposition, thereby furnishing ideal conditions for the rapid and complete establishment of the blood supply Under such conditions, Wolff's law of bone growth is given favorable opportunity to exert its influence on bone proliferation and on the adequate adjustment of the bone architecture Moreover, by the inlay technic, the full influence of Roux's law of frictional irritation is ideally provided for, since extensive plane surfaces of the graft are brought into the closest proximity with equally extensive plane surfaces of the host fragments

TECHNIC

In work on bone tissues, which easily dry on exposure to the air, operative speed is necessary, moreover, in the repair of bone that from lack of the stimulus afforded by mechanical stress has become almost eggshell-like in consistency, great delicacy of technic and operative speed are fundamental requirements in the difficult work of inserting the necessary inlay It would be impossible to execute such accurate inlay technic by the former laborious methods with mallet and chisel, or osteotome In work of this nature, in which the operating field is frequently limited, where fragility of bone may be a constant menace to success, and in which an accurate cabinet-maker fit of parts is indispensable, an electrically driven rotary twin-saw seems absolutely essential In contradiction to a recent assertion, it is emphatically stated that the motor-saw, when properly used, does not heat nor glaze the bone During various operations in the past few months, the author has made repeated attempts to determine whether heat was generated by the motor-saw when used properly and if so, to what degree In every instance it has been found that the most delicately adjusted thermometers have failed to register an increase in temperature, even to the fraction of a degree, when placed directly on the motor-saw or on the bone immediately following the withdrawal of the instrument

Methods of Internal Fixation —For the inlay graft, accurately cut and fitted by motor-saw technic, the fixation afforded by kangaroo sutures is adequate and preferable to that of all metal agents (such as plates, nails, screws or wire) Kangaroo tendon, from the standpoint of mechanical strength, absorbability and tolerance by the tissues, surpasses all known fixation agents It remains in situ sufficiently long for the purpose of fixation, and begins to be absorbed within forty days Moreover, it is sufficiently elastic to allow the plane surfaces of an inlay graft to rub in a microscopic amount on the contiguous plane surfaces of the gutter of the host fragments, thus favoring the frictional irritation law of Roux

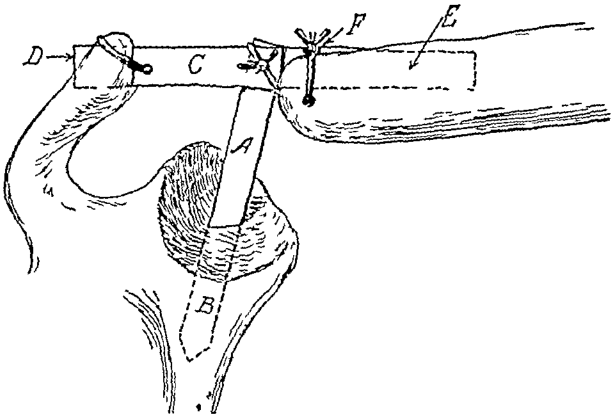

Fig 3 (Case 1) —Diagrammatic drawing (anterior view) to show the trusswork of tibial grafts in position and fixed with kangaroo tendon Graft *C* is inlaid into the shaft of the humeral fragment at *E* and mortised into the acromion process at *D* Graft *A* is mortised into the glenoid body of the scapula at *B* and attached by means of kangaroo tendon to Graft *C* at the point where the latter graft meets the end of the humeral fragment

The practice of inserting metal plates (as recommended by some surgeons) is absolutely contraindicated in this work The use of metal plates as the internal fixation agent not only robs the graft of mechanical stress, but an influence is thereby added that contributes strongly toward the stirring up of old infections, if such remain in the tissues Whereas, in tissues retaining only a slight amount of an original infection, a bone-graft operation speedily done with minimum trauma may bring satisfactory results, the introduction of a foreign body (such as a metal plate, nails or screws) adds a second devitalizing element, which, in the battle of tissues, may turn the scales unfavorably, with the result that infection again breaks out

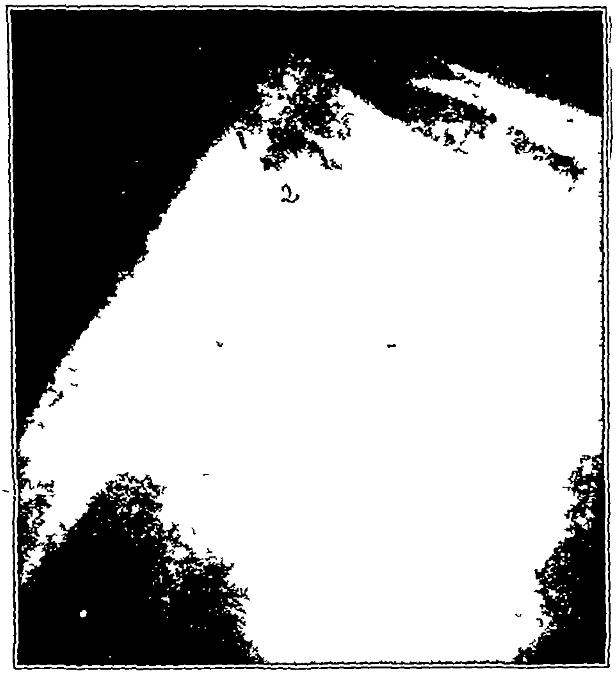

Fig 4 (Case 1) —The plastic operation in this case was performed four and one half months after the patient was wounded and two months after the wound had healed The roentgenogram demonstrates restoration of loss of bone by two tibial grafts eight weeks after operation Graft 1 was inlaid into the shaft of the humerus and mortised into the acromion process Graft 2 was mortised into the glenoid body of the scapula and contacted with Graft 1 at the point where that graft met the humerus During the union of the grafts the arm was held by a plaster-of Paris shoulder spica in an elevated anterior posture and in such relation to the scapula that the powerful thoracic muscles controlling this bone might later move it and in a large measure restore its loss of function by causing the scapulothoracic motion to be compensatory for loss of shoulder motion

ANALYSIS OF CASES

A careful analysis of the first 100 cases of fracture treated by bone graft at U S Army General Hospital No 3 during the period from July 15, 1918, to May 1, 1919, has yielded, it is believed, valuable data in regard to possibilities of treatment

Of the 100 cases, seventy-nine involved bones in which injury resulted from high explosive shell machine gun bullet, or shrapnel, seventeen were simple fractures of the long bones, the remaining four cases were compression fractures of the spinal vertebrae All the simple fractures and the spine cases have been successfully treated, in that they have healed, in each instance, without infection, and have shown bone growth by roentgenographic examination within a reasonable period after transplantation of the graft In every case of fracture of the long bones, function has been restored, while in the spine cases there has been an inhibition of symptoms

Of the seventy-nine cases of fracture by projectiles, treated by bone graft, sixty-five, or 82 per cent, were for loss of substance varying in amount from one-half inch to six inches, and averaging about two inches, ten cases were for nonunion without loss of bone, the remaining four cases were for malunion These cases are classified anatomically in Table 1

TABLE 1 —SEVENTY NINE CASES OF FRACTURE TREATED BY BONE GRAFT GROUPED ACCORDING TO THE BONES INJURED

Site of Injury	No of Cases
Radius	23
Ulna	17
Radius and ulna	4
Humerus	12
Humerus and ulna	2
Metacarpal	3
Mandible	1
Total cases head and upper extremities	62
Tibia	12
Femur	4
Patella	1
Total cases lower extremities	17
Total number of cases considered	79

SPECIAL METHODS

Some of the various methods of plastic repair employed in this series of fractures, more than four fifths of which involved loss of bone, are briefly described in the following groups of cases

Restoration of Loss of Bone at Shoulder—Owing to the exposure of the upper portion of the body in trench warfare, shoulder injuries, and particularly those involving the upper part of the humerus, have been frequent in the recent war Through the rather extensive practice of certain surgeons at the front, more especially of the French, of removing large portions of bone at or near the shoulder-joint in such injuries as these, there has resulted a notable group of cases in which shoulder function is very nearly negligible, if not entirely destroyed, on account of the loss of bony framework over which the shoulder muscles might play Of all surgical conditions, none presents a picture of greater helplessness than a dangling arm from which the upper portion of the humerus is missing

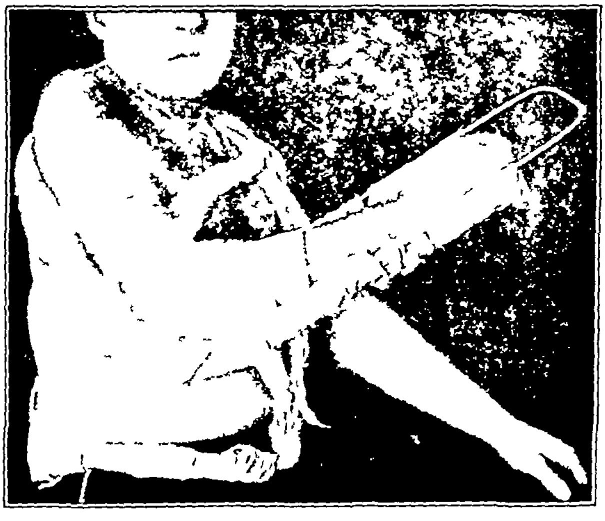

Fig 5 (Case 1) —Type of brace applied after removal of the plaster spica This brace is so adjusted as to allow the arm to descend to a lower position than that maintained during the union of the grafts to scapula and humerus This new position brings a slight amount of lateral stress on the grafts thus stimulating their hypertrophy and development It is obvious that this new posture causes the lower angle of the scapula to separate itself from the thoracic cage

The high frequency of shoulder and forearm injuries is strikingly borne out in Table 1 In this series of seventy-nine cases of fracture by war projectiles, injury to bones of the upper extremities, as compared with those of the lower, has occurred in a ratio of nearly 4 to 1 Of the total number of cases of injury in the upper extremity, the humerus has been involved in fourteen instances, or more than 25 per cent Cases of loss of substance in the humerus with loss of shoulder function have been classified in two groups, with respect to treatment

Group 1 Restoration of Shoulder Motion and Function This class consists of cases in which the humerus has been destroyed, but the musculature has been sufficiently preserved to enable the surgeon to hope for a return of shoulder-joint motion and function, provided the bone be replaced The author has restored motion and function in such cases by transplanting into the humeral fragment the head and upper end of the fibula to replace the upper portion of the humerus that has been destroyed He has resorted to this operation many times in his civil practice, as well as in military work, and has invariably found that the patient can functionate satisfactorily without the upper end of the fibula In these cases, whenever possible, the principal muscles of the shoulder, such as the pectoralis major, the supraspinatus and the subscapularis, are firmly affixed subperiosteally to the transplanted head and neck of the fibula

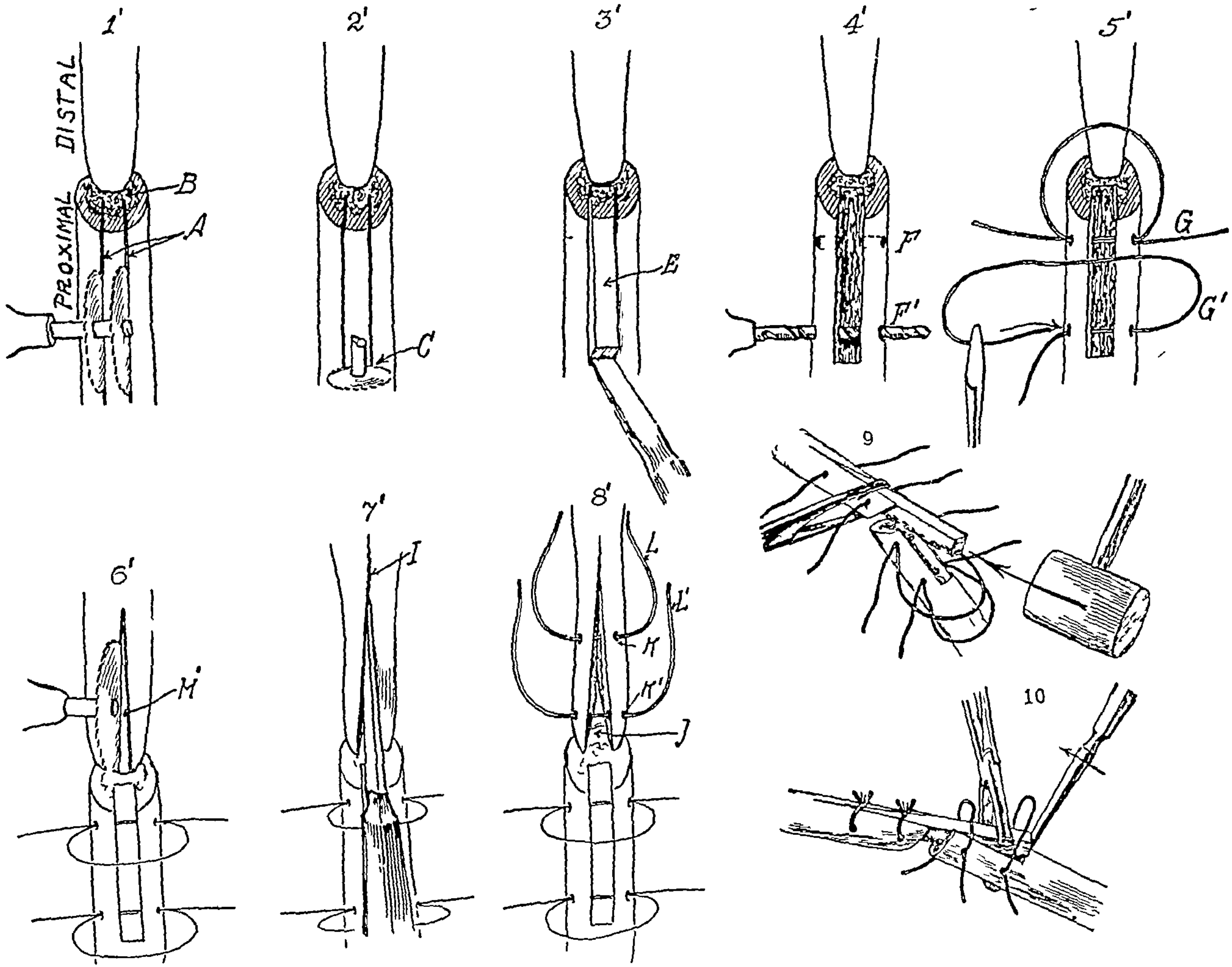

Fig 6 (Case 4) —Diagrammatic drawings 1 to 10 illustrate the author s technic in cases in which the end of the bone fragment (distal or upper fragment in this case) is conical in shape and too small in diameter to receive the usual inlay graft which is shown in the *proximal or lower, fragment in these drawings* A wedge shaped *piece of cortex H is removed from the upper fragment A split at the end* of the wedge cavity may or may not, be made by means of a thin osteotome as shown at *I* If the fragment is small in diameter and osteoporotic as is usual in these cases the bone may be bent on both sides of the cavity in the region of *I* and the wedge cavity may be enlarged by driving a wedge ended graft of larger diameter into it as demonstrated in Step 9 In Step 10 , the wedge end of the graft is firmly immobilized in the distal or upper fragment by means of kangaroo tendon The other end of the graft is then forced into the proximal fragment by means of a strong clamp at the same time that the graft is being levered endwise by means of a narrow osteotome the object of this procedure being twofold first, to restore as far as possible the length of the ulna and secondly to bring end stress on the graft as a stimulus to bone growth These drawings were made with the distal fragment of the ulna uppermost because of the position of the arm during operation

Group 2 Shoulder Function Restored by Compensatory Scapulothoracic Motion (Figs 2, 3, 4 and 5) This group includes cases in which, in addition to loss of bone, the musculature of the shoulder has been destroyed or severely injured to such a degree that one cannot hope to secure a return of shoulder-joint motion In these cases, the loss of bone is restored by ankylosing the humerus to the scapula by a truss-work of tibial grafts, usually two in number During the union of the grafts, the arm is immobilized in an elevated anterior posture, and is held in such relation to the scapula that the powerful scapulothoracic muscles which control this bone may later move it Thus, by causing the scapulothoracic motion to compensate for loss of shoulder motion of the arm, the lost motion of the arm and the shoulder is restored to a surprising degree

In restoring loss of bone near joints, this technic has been employed By means of an osteotome or chisel, a wedge-shaped mortise is made in the joint fragment and is extended under the capsule, and sometimes completely through to the joint cartilage, without damaging the joint One end of the graft is driven into this wedge-shaped mortise The other end of the graft is then inlaid into the long bone fragment by the usual inlay technic and is fixed with kangaroo tendon (Fig 3)

Restoration of Long Bones—Restoration of the shaft of the humerus, femur, tibia or any long, large bone has been accomplished by means of a graft inlaid by the author s usual inlay technic, as illustrated in Figure 6, in the larger fragment at *A, B, C* and *E* On bones of the forearm, or on any bone of small diameter, or in cases in which a bone of large diameter has become conical-ended, as frequently occurs, the mode of repair which has been resorted to is designated, for purpose of description, as the "fishpole" technic (Fig 6 *H, I* and *J*), since a similar method is employed by the artisan in mending a fishpole

The influence of stress on the hypertrophy and metabolism of bone has been more strikingly illustrated in bone graft restoration of the shafts of long bones than in any similar class of work However small the diameter of the graft, provided it be protected from fracture by external support and at the same time be allowed to withstand stress, it will eventually restore the lost bone in almost every anatomic particular, namely, in diameter, strength and external contour, as well as in respect to the internal architecture

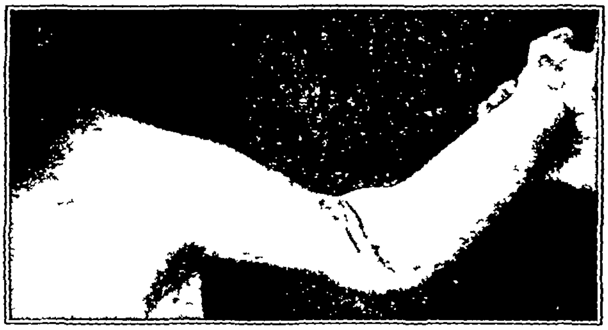

Fig 7 (Case 2) —Extreme laxity of left arm due to loss of substance in shaft of humerus as result of wound by machine gun bullet at Cantigny The plastic operation for restoration of bone and function in this case was performed seven months after injury and two months after wound had healed

Immobilization in Extremity Work—By making the most of all known mechanical joints and by the insertion of kangaroo tendon in such ways as to afford the best internal fixation, in conjunction with the most perfect external fixation by plaster-of-Paris dressings, the extremity being placed in various "positions of neutral muscle-pull," immobilization of the involved fragments has been found possible Too great emphasis cannot be laid on the importance of putting absorbable ligatures in the skin, so that carefully applied plaster-of-Paris dressings need not be disturbed for a period of at least eight weeks after implantation of the graft Plain catgut No 0 or No 1 with suture-holes puddled with tincture of iodin, serves admirably for this purpose Chromic catgut, No 0 or No 1, is also suitable The buried sutures in the soft parts should always be small in diameter and as limited in number as possible The only adequate postoperative dressing in these cases is the plaster-of-Paris splint, applied with the utmost care and molded to the bony contours of the extremity It should always include at least one joint above and one joint below the bone involved, with due attention given to position, which is of the greatest importance By way of illustration, in cases of injury of the upper portion of the ulna, the arm should always be put up straight, never with the elbow flexed In cases of injury at or near the lesser trochanter of the femur, the extremity should always be immobilized in a plaster spica with the thigh abducted and flexed

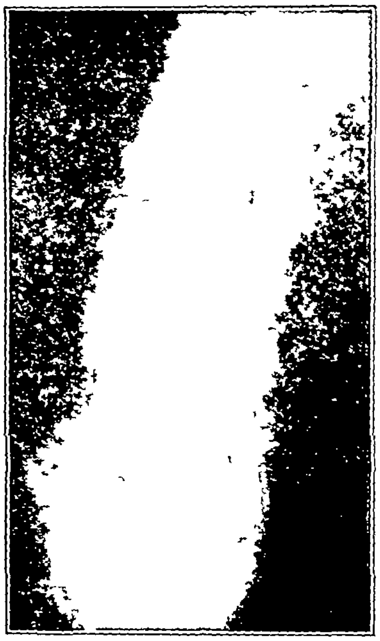

Fig 8 (Case 2) —Loss of about 1½ inches of shaft of humerus

Synthetic Grafting of Tissues in Construction of New Fingers—In two cases of loss of four fingers with the adjoining metacarpal bones as a result of high explosive shell and shrapnel wounds, the hands were completely helpless, so far as grasping and holding were concerned In these cases, function has been restored to a great extent by the synthetic construction of new digits One of these cases is illustrated in Figures 12, 13 and 14 By providing an apposing surface for the thumb, the usefulness of the member has in each instance been restored

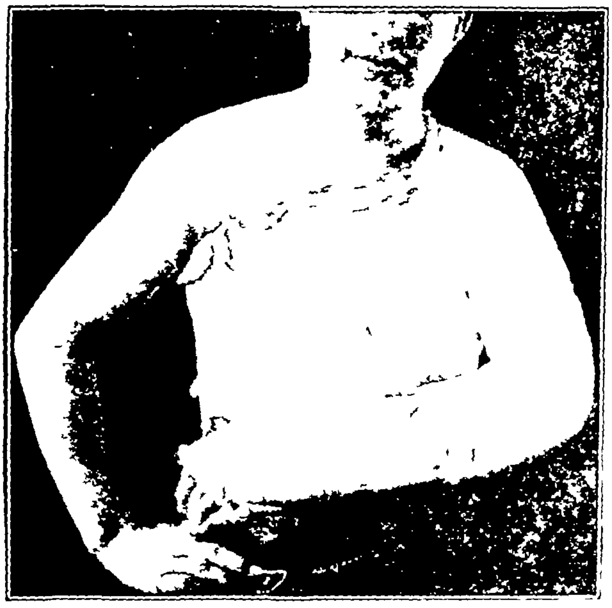

Fig 9 (Case 2) —Method of immobilization of fractures of humerus In this case the dressing wa allowed to remain on for eight weeks

In plastic work of this nature, which involves the transplantation of more than one kind of tissue, a two-step or multiple-step procedure[1] is the only method whereby a successful sequence may be expected It is essential, for example, in handling soft parts and bone (as in the construction of new fingers, in plastic repair of the jaw, etc) that skin and subcutaneous tissues be firmly united with the host-tissue and that circulation therewith be well established before implantation of bone Ease of technic and the possibility of obtaining nple soft tissues and bone have also led the author to ecommend strongly this type of operative procedure

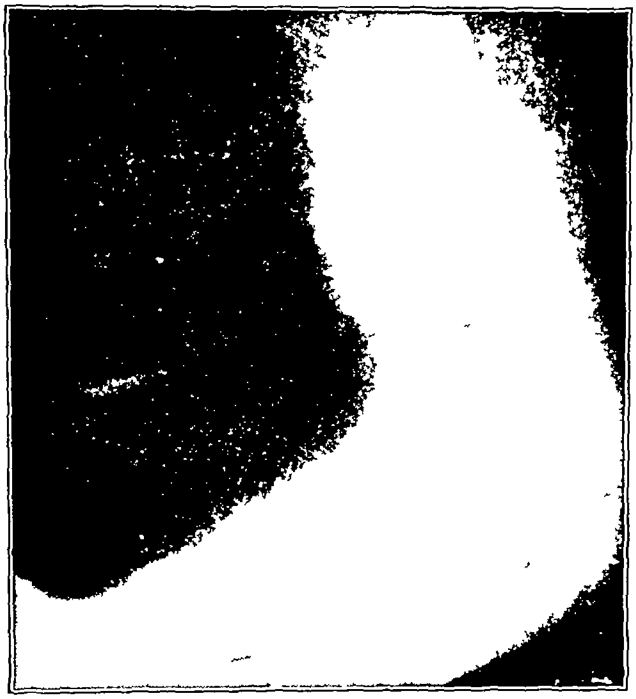

Fig 10 (Case 2) —Tibial bone graft firmly united in position ten weeks after plastic operation

Repair of the Mandible—Probably no branch of surgical repair presents greater difficulty of mechanical fitting and adjusting than in injury to the lower jaw, involving extensive loss of bone Owing to the irregularity of contour of the jaw fragments, hardness of the bone and lack of anvil stability, such work demands an accuracy and precision of technic that can be secured only by the use of delicately adjusted motor tools, such as the author's tiny circular saws, burrs, drills, end-mills and the like

Of primary importance is the cosmetic result In many cases this depends entirely on the construction of a suitable graft framework over which to restore the contours of the face Such a framework must secure the adequate fixation of the jaw fragments, as well as restoring, in many instances, loss of bone substance In his plastic work on the jaw, the surgeon will do well to cooperate, so far as possible, with the prosthetic dentist in the application of the most efficient intradental splints Use of such splints is, however, in many instances, impossible, owing to the extensive loss of teeth and of bone In the latter cases, the sole means of fixation must be provided by the graft, which should be molded and firmly inlaid into each fragment, adequate in any emergency (such as removal of the dental splint on account of pressure necrosis, etc) to supply the requisite fixation

In other work, such as the restoration of the shafts of long bones, neck of femur, etc, the tibia has been found a satisfactory source from which to obtain the graft In work on the jaw involving extensive bone loss, however, the tibial dimensions are not always sufficient to supply a graft of the necessary curve and size In such an event, the side of the ilium, adjacent to the anterior superior spine, is the only bone, with the possible exception of the outer table of the skull, which is of adequate dimension to allow the proper modeling of the graft, which is done by means of motor-driven tools in a manner resembling the scroll-work of the cabinet-maker

Relief of Compression Fractures of the Vertebrae—The use of the bone graft as a means for relief of compression fractures of the vertebral bodies has afforded highly satisfactory results On account of meager bone growth and inadequate bone repair around crushed vertebral bodies, and because of constant interference with bony union by the respiratory and voluntary motion, nature, unassisted, does not bring about the proper repair in these cases, even though efficient external means of immobilization be employed for months, and sometimes even for years To supply the deficiency resulting from lack of bone repair, the bone graft offers a sure means of relief, and its indications in such cases are as definite as in any pathologic or traumatic conditions encountered It is inserted into the spinous processes by precisely the same technic as has been devised by the author for the treatment of Pott's disease of the spine (Fig 15)

Preoperative Treatment of Persistent Infection—In our first series of 100 fracture cases treated by bone graft, we found that postoperative wound infections were more frequent in the last twenty-five cases than previously However, these cases did not include in all instances those wounded at a later date, but rather those in which the primary wound took longer to heal, and the later infections, following the plastic operations, are attributed to a more severe primary infection and to a less complete immunization on the part of the patient

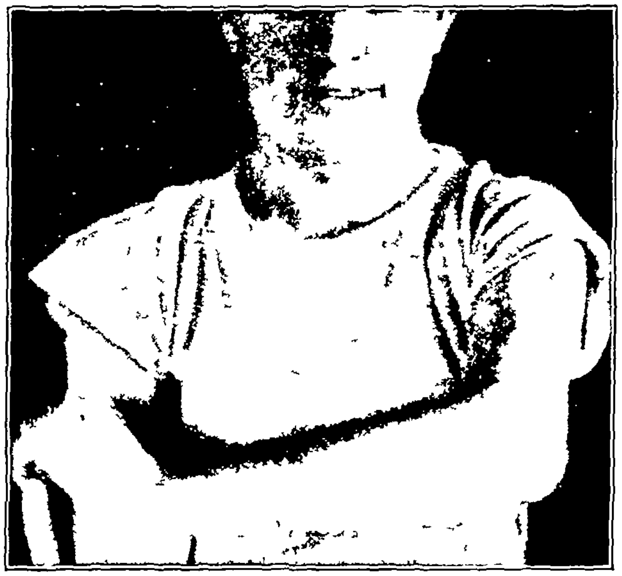

Fig 11 (Case 2) —Stability of arm from union of graft ten weeks after operation Such a posture was impossible before operation

At the time of the plastic operation, positive cultures were occasionally found in the scar tissue around the bone ends, and small sequestrums were removed from the bone fragments Not all of these cases, however, showed infection following the operation In those cases which did, the infection was usually of a mild, low-grade type, apparently owing to the attenuation of the infecting organism or to a partial previous immunization of the patient against that organism

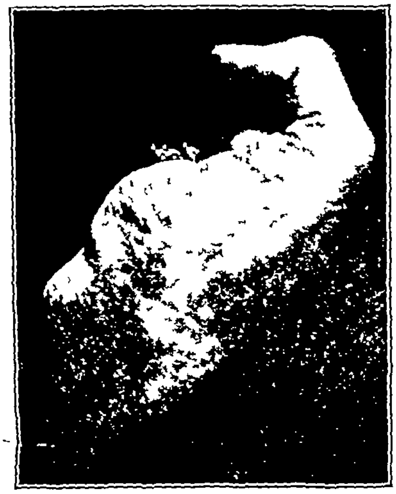
Fig 12 (Case 3) —Left hand of an American soldier who lost completely the four fingers and adjoining metacarpal surface following a high explosive shell wound at Chateau Thierry One may note the absence of any apposing surface when the thumb is flexed, as a result of which nothing can be grasped or held

The scar, on account of its low-grade tissue and its deficient blood supply, furnishes a most unfavorable environment for the reception and nourishment of the graft To obviate the possibility of subsequent infection in cases which, from their past history, seem unfavorable, and in order to furnish healthy tissues in which to implant the bone graft later, it has been the author's practice to excise the scar at a preliminary operation, laying bare the bone ends, and replacing the scar by plastic flaps of healthy skin, subcutaneous tissue, muscle, fat, etc If, as has usually been the case, satisfactory healing of the wound takes place, the bone graft operation follows after a period of from ten days to two weeks By means of such a two-step operative procedure, healthy tissue is provided for the subsequent implantation of bone, and a successful sequence is more reasonably certain

Source of Graft Material—Owing to its accessibility and favorable contour, the tibia, perhaps of all the bones of the body, as a source of graft material affords the greatest ease of technic Moreover, bone from the tibia is nearly always preferable for grafting purposes, not only on account of the dimensions and the plane surface of this bone, which permit of a wide choice in the selection of material, but also because of its characteristic strength and osteogenic activity In the treatment by bone graft of the foregoing series of 100 cases of fracture, the tibia with few exceptions furnished the graft material The exceptions were in cases of sliding grafts to restore loss of substance in the humerus, femur or tibia, and in one instance of synthetic transplantation of tissues to form a new finger, in which case bone was transplanted from the clavicle

Avoidance of Operative Trauma—There are traumatic influences which have an important bearing on the success of a bone graft operation It is necessary to avoid certain faults in technic, such as excessive length of operating time, with the resultant drying of the graft or host tissues from contact with the air, rough use of the retractors, poor mechanical fit of graft, absence of coaptation of similar bone layers or direct trauma from wedging or crushing by the chisel and mallet

TABLE 2—SUMMARY OF TIME REQUIRED IN BONE GRAFT OPERATIONS ACCORDING TO SITE OF INJURY

Bone	Time of Operation	
	Average	Shortest
Humerus	1 hour	45 minutes
Radius	47 minutes	25 minutes
Ulna	33 minutes	19 minutes
Femur	55 minutes	21 minutes
Tibia	23 minutes	14 minutes

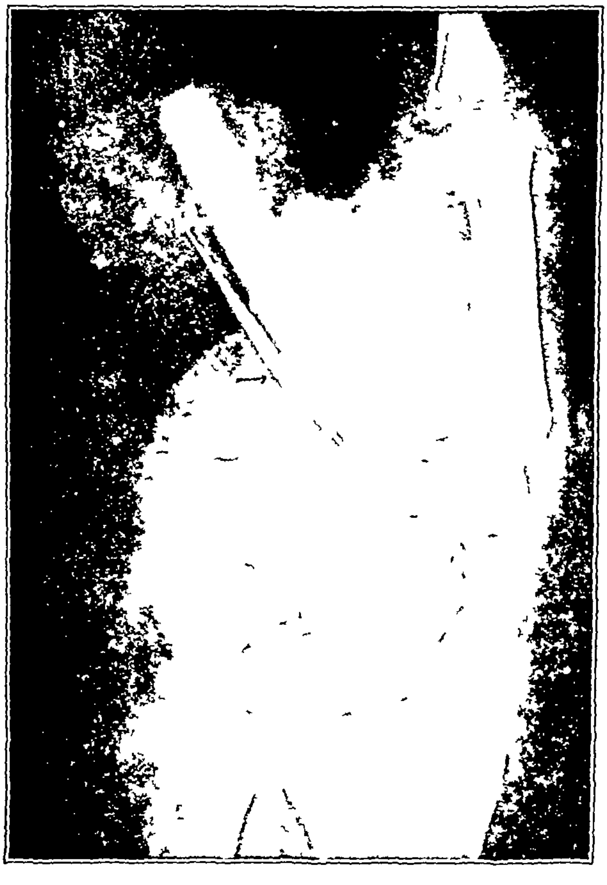
Fig 13 (Case 3) —To restore lost function of hand the synthetic transplantation of soft tissues and bone was undertaken in a two step operative procedure Skin and soft parts were first turned up from the chest wall to form a boneless finger Through a pedicle left attached to the chest wall supply of blood was furnished until circulation with the hand was thoroughly established The hand and arm were immobilized in plaster for four weeks In the second operative step the boneless finger was first cut loose from the chest wall A tibial graft inserted through the soft parts was then mortised firmly into the os magnum A sliver graft indicated by the arrow was affixed alongside for increased osteogenesis The roentgenogram was taken four weeks after the implantation of the grafts which now have become firmly united to the bones of the hand

Table 2 permits a comparison of the average operating time with the shortest in certain cases, and has been inserted because it is believed that in no other class of surgery does length of operating time so materially influence results In this work, in which we are dealing with rigid tissues, every effort must be made to maintain to the fullest possible extent the viability of the transplanted bone, a condition largely dependent on the early union of graft tissue with host tissue and on the adequate establishment of nourishment. Drying of the tissues from contact with the air should be constantly guarded against, not only by the use of saline solution, but by completing the operation in the shortest possible time consistent with good work and with minimum trauma

Final Results in Forty-Eight Cases—Too short a time has elapsed to pass judgment, at the present date, on the entire series of 100 cases of fracture However, in forty-eight cases that were treated before March 1, 1919, and have, therefore, afforded opportunity for observation over a period of at least ten months, we feel justified in reporting definite conclusions

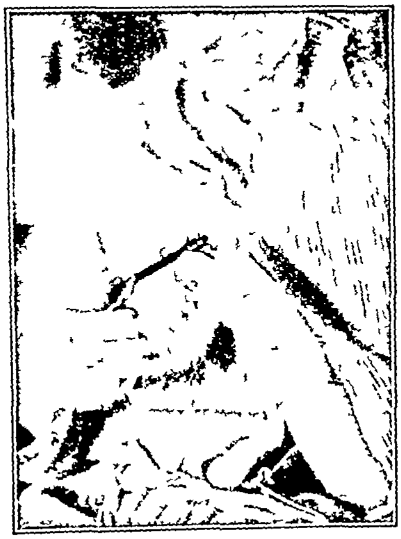

Fig 14 (Case 3) —New finger six weeks after last operation The patient is now able to grasp and hold objects with his thumb and grafted finger

Of these forty-eight cases, the results in six are questionable, the grafts are still in situ and the roentgen ray reveals bone growth, but the wounds were primarily infected and there yet remain one or more sinuses Three of these questionable cases, however, show favorable indications of ultimate good results, the other three cases will probably be failures

Four of the forty-eight cases are definite failures Of these, one case, a sliding inlay from a tibia to a femur to stabilize a resected knee, was complicated by pneumonia five weeks after the operation, sinuses broke out on both sides of the knee, with a resulting infection of the entire scar tissue of the knee and a failure of part of the graft to "take" Of two radius cases that were failures, one showed a positive Wassermann after, but not before, the operation, and the patient himself removed the fixation dressing on three different occasions The other radius case showed a bad infection of dense scar tissue The fourth, and last case of failure, was a humerus case with loss of three inches of substance, and with much scar tissue The wound broke down, and examination by roentgen ray revealed that the lower end of the graft was not attached to the distal end of the humerus

Subtracting this group of ten cases, of which four are definite failures and six questionable cases, we have thirty-eight cases remaining, all of which have shown perfect results in respect to postoperative primary healing of the wound, proliferation of new bone as demonstrated by the roentgen ray, and restoration of function This yields a rate of 79 per cent perfect results, with a possibility of an ultimate 85 per cent, should three of the questionable cases prove successful

A complete report of all the plastic operations performed at U S Army General Hospital No 3 will be published as soon as sufficient time has elapsed to permit of trustworthy deductions

SUMMARY

The following conclusions are based not only on a study of cases and results at U S Army General Hospital No 3, at Colonia, N J, but also on the author's previous experience with over 1,800 cases treated by bone graft in civilian practice, as well as in extensive animal experimentation It is believed that the careful observance of these points is essential to success in this class of work

1 *Early Observation of Wound*—A careful study of the wound should be made before it has healed, if possible The type of infecting organism (*Streptococcus hemolyticus*, gas bacillus, etc), the nature of the clean-up operation and the manner of healing of the wound should be noted

2 *Time to Operate*—In a few cases it is permissible to operate after the wound has been completely healed for a period of two months, while in others, on account of possible latent infection, it may be advisable to delay the final plastic work for at least six months In some of the unfavorable latter cases, a two-step operative method may be followed, consisting of a preliminary excision of scar tissue with replacement by a healthy skin flap, muscle, fat, etc, followed after a period of from ten days to two weeks by the final bone plastic operation

3 *Immediate Preoperative Observations*—For the purpose of determining the existence of latent infection, splints should be removed, and deep massage and rough manipulation should be practiced for a period of from one to two weeks prior to the operation During this time the temperature should be observed, and the parts should be carefully examined for local tenderness or any evidence of a recrudescence of infection The field of operation should have a forty-eight hour preparation, iodin technic being preferred

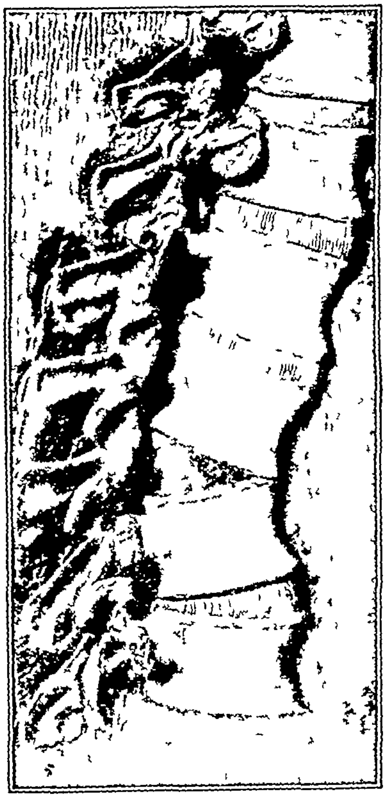

Fig 15 (Case 4) —Case of compression fracture of third fourth and fifth lumbar vertebrae caused by fall in dugout Panel of vertebrae (from clay model of case) showing relief of condition by a tibial graft inlaid into spinous processes from first lumbar to first sacral vertebrae

4 *Plan of Operation and Choice of Incision* — By means of roentgenographic and physical examinations, the proposed plan of operation, especially in respect to location of graft, should be determined before incision is made If possible, the skin incision should not lie directly over the proposed bed of the graft, and the operation should be so planned that the graft may be covered without undue tension of skin and, if possible, so placed that it comes in contact with healthy tissue instead of scar tissue In several cases in which this has been accomplished, the graft has healed in by primary union, whereas the scar, even at a

considerable distance from the graft, has broken down completely In cases of extensive loss of bone, the scar tissue may be pushed to one side, in order that the graft may lie in healthy tissue Drainage wicks of any kind should never be inserted at the time of operation

5 *Duration of Operation*—It is believed that the shortest possible operating time consistent with good work and with a minimum amount of trauma is requisite to successful results in these cases

6 *Use of Motor-Driven Instruments*—These are essential (*a*) on account of the necessity for rapid work in order that drying and traumatization of the graft tissues and host tissues may be avoided, (*b*) in order that a cabinet-maker fit may provide for mechanical fixation of parts and for the operation of Roux's law of frictional stimulus to bone growth with a view to an early and adequate establishment of nourishment to the graft, and (*c*) on account of the necessity for the fulfilment of the law of anociassociation The motor outfit with its various tools to produce automatic fits seems indispensable The motor-saw, when used by the proper technic, does not heat nor glaze the bone

7 *Adequate Length of Graft*—The graft should always, when possible, be of the inlay type, and sufficiently long to extend into each fragment for a distance of at least 2 inches, and always beyond the sclerosed area The gutter should extend well into the healthy marrow of the host-bone, with which the marrow of the graft should be amply contacted It is exceedingly important that the bridge of marrow from the marrow canal of one fragment to that of the other should be restored for the transmission of blood vessels, bone cells, etc

8 *Type of Graft*—The graft should, if possible, be autogenous, consisting of all the bone layers, namely, periosteum, complete thickness of cortex, endosteum and marrow substance, and it should be so inlaid that the fit is perfect, with exact apposition of corresponding layers of graft tissue to those of the host fragments Such a contacting fit not only favors the mechanical fixation of the fractured bone and the graft, but also the very potent frictional stimulus to bone growth, emphasized by Roux

9 *Supplemental Grafts for the Purpose of Osteogenesis*—Small silver grafts placed alongside the principal fixation graft are most efficacious in supplying additional foci for bone growth

10 *The Graft as Main Fixative Agent*—Fixation should always be secured by the graft itself and not by metal plates or other foreign material, since it is the stimulation from the stress carried by the graft itself that is largely responsible for the healthy metabolism of the graft and for bone growth

11 *Suture Material*—The graft should be held in place by a minimum amount of absorbable suture, preferably kangaroo tendon, which is the ideal material for this purpose, in that it is tolerated by tissue, readily absorbable, very strong and reliable Fine absorbable suture material should be used for the skin and underlying soft parts

12 *Postoperative Fixation*—The limb should be firmly immobilized by a plaster-of-Paris cast for a period of from eight to ten weeks following operation, and as long thereafter as the roentgen ray shows it to be necessary Emphasis should again be placed on the importance of using absorbable skin suture material in order that the plaster dressing need not be disturbed until time for the removal of the splint

DIAGNOSIS AND SURGICAL TREATMENT OF INTRATHORACIC GOITER

PALLIATIVE TRACHEOTOMY, TRACHEOSTENOSIS *

GUSTAV SCHWYZER, M D
MINNEAPOLIS

The term intrathoracic goiter indicates in a general way that the thyroid growth is located in the chest Woelfler used to classify these goiters as substernal subclavicular and endothoracic Others speak of partial or total intrathoracic goiters None of our goiters belong to the endothoracic or total intrathoracic group, they were all complicated by a goiter on the neck itself

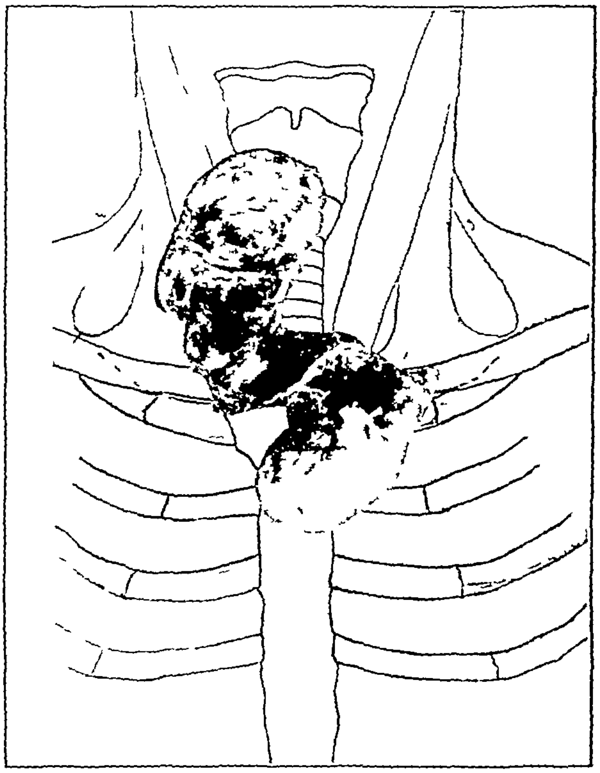

Fig 1—Intrathoracic goiter in Mrs R aged 57

In order to eliminate confusion with the ordinary struma profunda projecting into the sternal notch, I shall consider only those goiters that reach to the height of the second rib or lower

ANATOMY

In order to gain a clear understanding of the symptoms of intrathoracic goiter we must consider for a moment its anatomic relations

The aperture in the thorax anteroposteriorly measured from the upper border of the sternum to the first dorsal vertebra is only 5 or 6 cm in distance and the lateral diameter taken through the middle of both ribs is from 9 to 10 cm It is evident, therefore that the aperture into the thorax is the most dangerous place if a goiter is located here, as this bony ring cannot give, and compression o [illegible] nt [illegible] is going through is unavoidable [illegible] ou the aperture into the cavum mediastini, conditions become more tolerable If it stays back of the sternum, it compresses particularly the trachea The esophagus does not give any symptoms in most cases, though difficulty in deglutition speaks for a retrosternal goiter

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* Read before the Minneso [illegible]

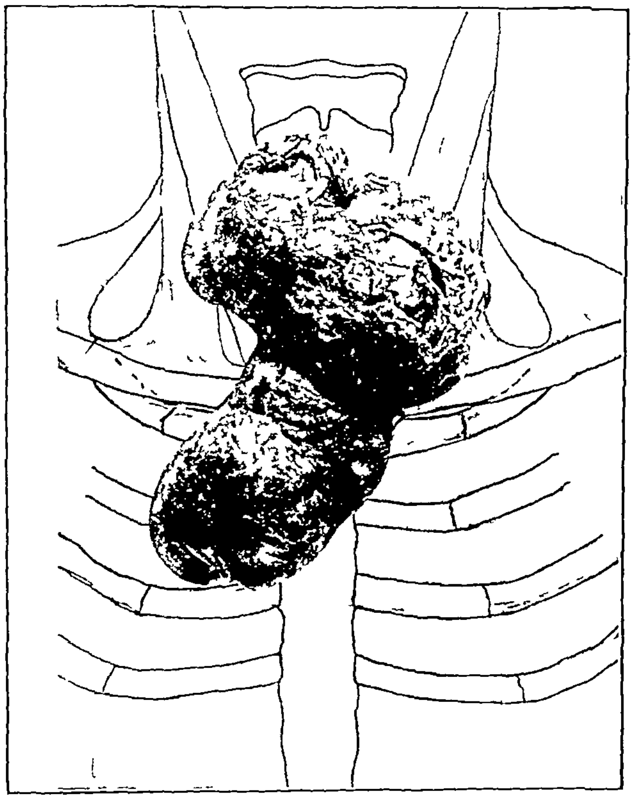


Fig 2—Intrathoracic goiter in Mrs C aged 63

The cavum mediastini is bordered in front by the manubrium sterni, the anterior ends of the claviculi and the first ribs, posteriorly by the first three dorsal vertebrae, on the side by the parietal pleurae, and inferiorly by the big blood vessels, the vena and arteria anonyma, the arch of the aorta, and the pericardium The organs we deal with in this cavum are the vena anonyma, back of it the truncus anonymus arteriosus, the common carotid, and the subclavial artery, the nervi vagi, recurrentes and phrenici, the thoracic duct, the tip of the lungs, the trachea and the esophagus

DIAGNOSIS

A considerable aid in the diagnosis is a good history We may learn that the patient had a goiter for years, and that this goiter disappeared or "was cured," as the patient often expresses himself He may mention that breathing was always labored at the least muscular effort, and difficulty in breathing remained even after the disappearance of the goiter on the neck In addition the patient may say that in bed he is forced to lie in a certain position Often he requires no pillow or, on the other hand, he may have to elevate his head unusually high Should he change the well-chosen position of the head unconsciously in his sleep, the patient awakens feeling chocked, has to sit up straight in bed, or runs to the window in an effort to inhale air Sometimes he spends night after night in a chair, fearing the recurrence of one of these spells

INSPECTION

At times such a patient has almost a comical appearance, carrying his head in a high and stiff manner Again, we may find the head bent forward with the chin approaching the sternum

Physical Examination—If no goiter attracts our attention, we now start with a thorough physical examination of the chest Percussion may give us a distinct dulness over the sternum, or over the sternum and one side, or over both sides This symptom is a more constant one than the findings perceived through auscultation The latter examination, though, may help us at times in our diagnosis The breathing in the upper chest may be so light and superficial that it attracts our attention This finding points to the fact that there is an impediment to the breathing The lung may be squeezed to the side, so much so that it cannot inflate Or a bronchus may be compressed

Whether or not there is a goiter plainly visible, with or without dyspnea, we are bound to make a careful palpation of the neck down into the jugulum as far as we can reach We may find a palpatory resistance in the jugulum which is constant or which appears only during deglutition The larynx may stand very low We then speak of a ptosis of the larynx Its excursion during deglutition might be markedly reduced Consequently we must always remember deglutition when we palpate

If hoarseness exists, then the laryngoscope will tell us of a paresis or a paralysis of the vocal cord Again we are a step ahead in the diagnosis True, there are some cases with extreme dyspnea in which the more skilful laryngoscopist will be unable to succeed in seeing far down into the trachea I will add that *not only the vocal cords but also the lower part of the* trachea must be included in the laryngoscopic picture

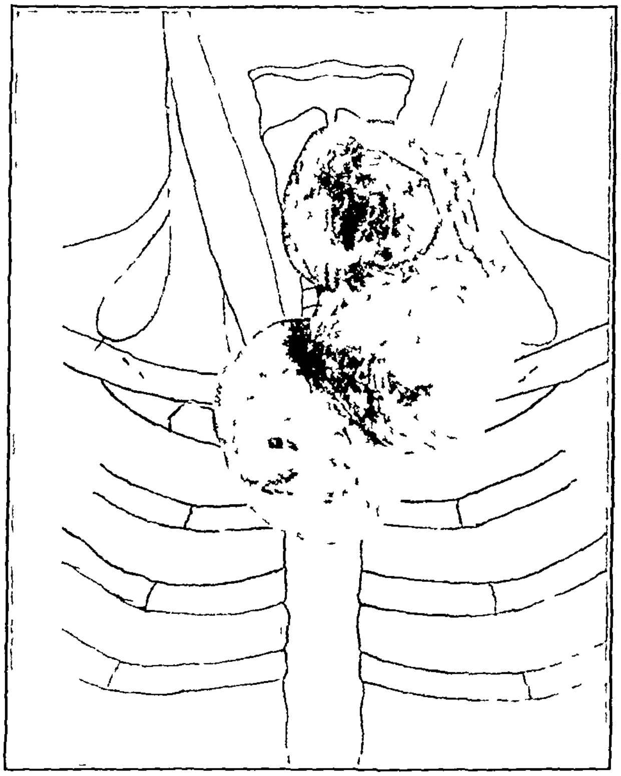


Fig 3—Intrathoracic goiter in Mrs R, aged 53

Pathologic Structure.—At times there are symptoms existing which originate from the special pathologic structure of the goiter, and these also have to be considered.

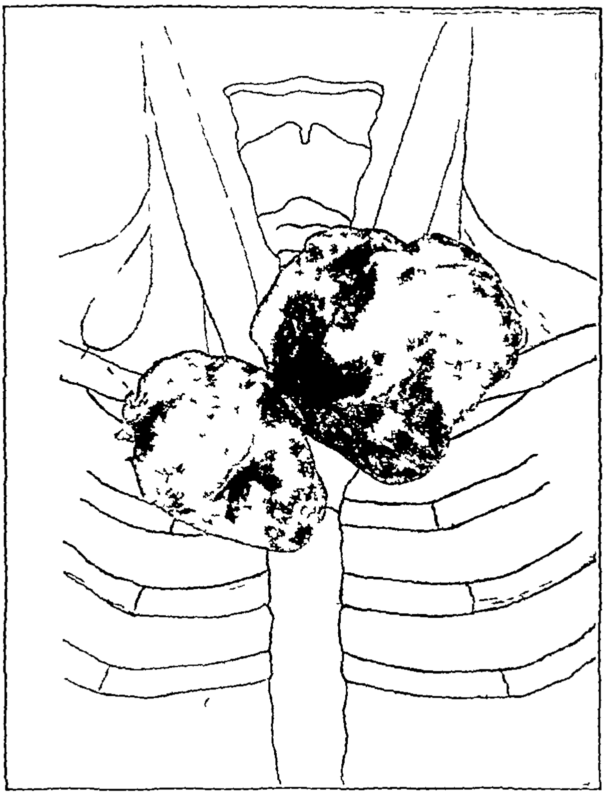


Fig 4.—Intrathoracic goiter in Mrs O., aged 64.

The malignant intrathoracic goiter in its initial state is of course intracapsular and cannot be diagnosed. Should we have severe dyspnea and especially paralysis of the recurrent laryngeal nerve together with some metastatic tumor, the diagnosis becomes certain, but a cure impossible.

Fortunately, most of the intrathoracic goiters are of benign nature. In this group belongs the toxic or exophthalmic intrathoracic goiters with their characteristic symptoms: tachycardia, tremor, disturbances of the nervous system, and the various eye symptoms including exophthalmos.

Heart Symptoms.—The connection between the goiter and the heart has long been recognized. We commonly speak of a "goiter heart." A toxic goiter or the pronounced exophthalmic goiter is responsible for the thyrotoxic heart. But there is another important heart affection more commonly found in intrathoracic goiter called the "mechanical goiter heart." It is an accepted thought that pressure of the tumor on the large blood vessels as well as on the nerves, especially the cardiac branches of the sympathetic nerve, can bring on this condition of the heart. On examining the heart itself we commonly find its valves free from murmur. It usually appears enlarged, but because of the dulness mostly constant in the chest, the outlines of the heart become indistinct. The heart action is confused, irregular and accelerated.

A very characteristic symptom is the net of dilated veins on the neck and upper chest anteriorly. The superior vena cava, which brings all the blood from the upper part of the body into the right atrium, suffers principally through this pressure. That blood is now drained through some side channels (the venae costalis superiores, hemiazygos and azygos) into the inferior vena cava. This phenomenon was observed in one of my cases (Miss H.). Her history tells us that at one time she was treated at a hospital for these varicose veins.

The arterial blood vessels also can suffer.

There are cases reported in which one common carotid and the radial artery of the same side were only faintly pulsating, owing to the severe pressure from an intrathoracic goiter.

Roentgen-Ray Examination.—Good roentgenograms and a fluoroscopic examination are, indeed, a welcome aid for the diagnosis. There are some rare intrathoracic goiters, for instance, tumors in the chest from aberrant thyroids, in which the roentgenographic examination is the only means by which we can detect such a disease. We should have an anterior and a lateral roentgen-ray view, lateral especially, as the intrathoracic goiter is located particularly in the anterior upper portion of the mediastinum. If during deglutition in the fluoroscopic examination the tumor follows the movement of the larynx and trachea, regularly and synchronously, the last doubt in the diagnosis is removed.

Indications for Operation.—Whether or not a case of intrathoracic goiter is operable does not depend on the degree of dyspnea, nor does it depend on the pressure of the nerves, or on any of the symptoms mentioned, but it does depend on the heart. A degenerated heart muscle, a pronounced myocarditis bringing on secondary changes of the other inner organs, is a contraindication for operation. But ev[illegible] after carefully weighing the various h[illegible]s, we are

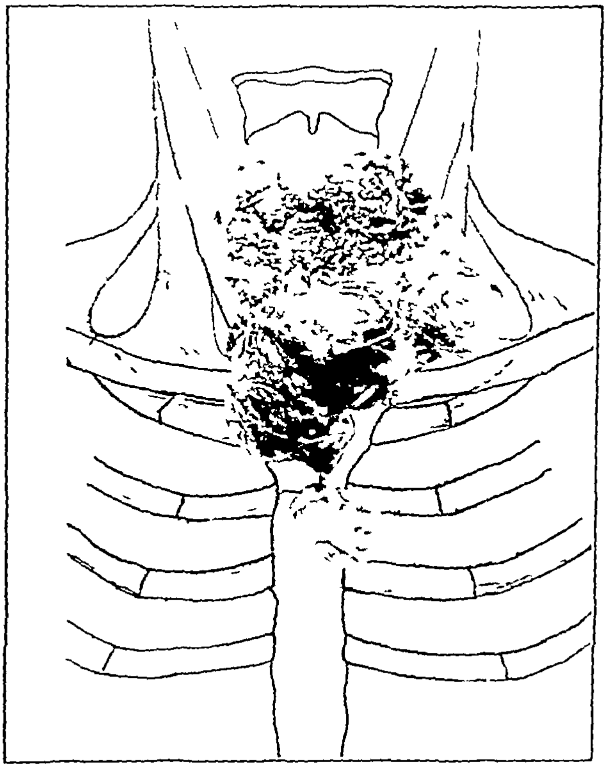


Fig 5.—Intrathoracic exophthalmic goiter in Mr C., aged 49.

always taking a certain risk, for we have no direct test which will reassure us that the heart is sufficiently resistant for the operation

SURGERY

A retrosternal goiter with its precarious dyspnea should be operated on without much delay We must remember that choking spells do not repeat themselves indefinitely, for with each such dyspneic attack the patient is one step nearer his grave I shall never forget one case at Kocher's clinic which resulted fatally It was a case in which dyspnea increased so rapidly that not even a tracheotomy could be done The patient, who had an intrathoracic substernal goiter (found at necropsy), was ordered to bed He disobeyed the physician's orders, left his bed during the night, and by doing so brought on a new spell of dyspnea, this time fatal

It is desirable that the operation be begun under local anesthesia if the dyspnea is very marked or if the goiter is of toxic nature Concerning this point, one of my cases will open an argument A woman, aged 64, with a subclavicular goiter, died from pneumonia on the fourth day following the operation, which was done under local anesthesia I am inclined to think that the severe mechanical injury resulting from working directly on the trachea was sufficient cause for the death It has been my experience that even ordinary goiter operations may be complicated by an acute putrid bronchitis For this reason de Quervain in Bern avoids as often as possible dissecting the isthmus free from the trachea unless there is a strict indication for the removal of the isthmus

Excitement must be kept away from the patient as much as possible Very important too is the position of the patient on the operating table Let the patient be the judge to tell us whether the head lies correctly Only in apathetic patients must we be guided by the stridor If the latter is minimized, the most desirable position is found It is of the utmost importance to have an eye on the respiration If the extreme dyspnea increases to a degree too dangerous for life as the operation progresses, a tracheotomy must be made and a cannula of sufficient length must be introduced to reach beyond the point of obstruction I prefer the flexible cannula devised by Koenig

This operation, which is only palliative, proves to be very difficult at times, especially if the trachea is covered by the thyroid mass above the manubrium sterni The most desirable way that the operation can be performed is to divide the isthmus wherever it is most feasible and dissect it bluntly as much as possible from the trachea

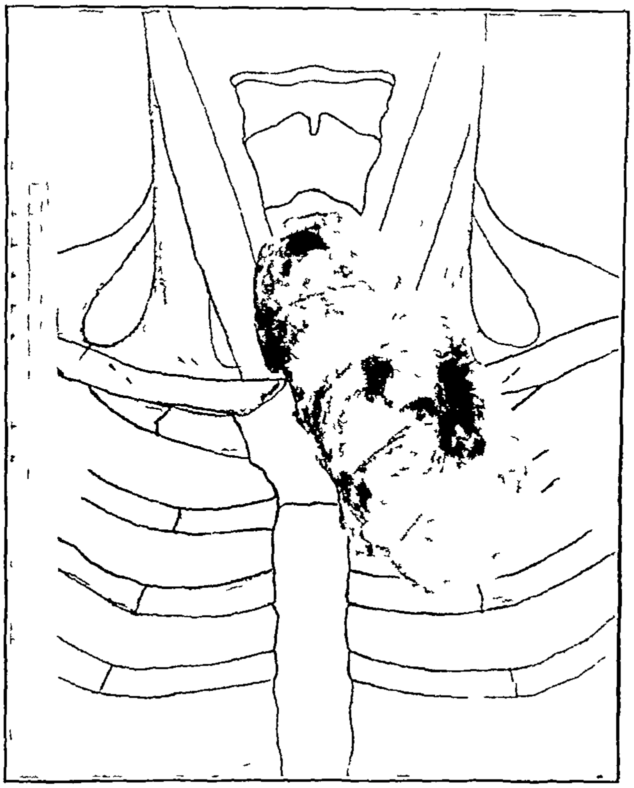


Fig 6—Intrathoracic goiter in Mr M, aged 56

While surgeons formerly practiced a two-stage operation, we today excise the tumor regardless of a tracheotomy The tumor itself must be bluntly enucleated from within its capsule Its blood vessels as they present themselves require exact attention Only in this way can fatal hemorrhage be avoided I always start my goiter excisions by tying off the upper horns I was astonished to find that no severe hemorrhage ever followed In one case I compressed temporarily with gauze, but I never inserted liquid wax, a procedure recommended by competent surgeons Should a large blood vessel like the anonyma become torn, the question in my mind remains open whether the hemorrhage can be controlled without resecting the sternum and the clavicles, a procedure which in itself carries unavoidable complications

Kocher has devised a good clamp of great value for traction on such intrathoracic tumors The instrument compresses the tumor, thus avoiding profuse bleeding The sharp hooks of the instrument prevent it from slipping, and the tumor, therefore, must follow the traction

I have drained every cavity which naturally exists after such goiter excisions with fine, flexible, rubber tubes The drains are removed as soon as the secretion ceases It is astonishing in how short a time the obliteration of such cavities takes place

Let us consider my own cases All these intrathoracic goiters were of benign nature, one was a double cyst, two distinctly toxic, one exophthalmic, and the others were colloid, parenchymatous or cysto-parenchymatous goiters Two were in men and fourteen in women, although the statistics generally favor the male sex tor intrathoracic goiters

The one exophthalmic case, in a man, aged 49, I shall report somewhat in detail

I performed the ligation operation on both upper horns in January, 1912 The patient, who had the characteristic tremor, perspiration, sleeplessness, sick feeling in the stomach and abdomen, and loss of body weight (160 pounds), showed a pulse of 122 when quiet in bed The characteristic symptoms existed over the gland, but there was no exophthalmos The operation had the desired effect From notes taken in January, 1914, I learned that he improved generally within the two years after the ligation His pulse came down to between 106 and 110 Still he suffered from his heart beating and from slightly dyspneic breathing At this examination the laryngoscope detected a deviation of the trachea to the right and compression of the tracheal rings

Having felt the intrathoracic part of the goiter at the first operation, I proceeded with the excision of the goiter in January, 1914 It proved to be a bloody and difficult operation The tumor tore in different places, but luck was with me The patient left the hospital two weeks later with a pulse of 76, and in June, 1914 (same year), he writes that he does all the work without a hired man on his farm of 160 acres. His weight is now 200 pounds, his pulse 74, and he eats and sleeps well.

One of my toxic cases was unusual on account of acute mental disturbance lasting about thirty hours following the operation. In her confusion the patient tore the bedclothes and constantly tried to leave her bed.

Two cases showed a plain "mechanical heart."

Mrs R., aged 57, had a very irregular pulse at a high rate without any pathologic findings over the valves. To my surprise there were only 100 pulsations on the second day following the operation.

Mrs C, aged 63, had a perfectly normal heart. The tone over all the valves was clear but the function of the heart was increased in frequency and energy. The pulse rate, previously up to 132, became normal forty-eight hours after operation. The heart in any of our thyrotoxic patients has never responded so promptly, that is, never has come down to a norm in such a short time following excision.

In three cases of the series my diagnosis was incomplete. I thought I had to do with strumae profundae, which proved to be intrathoracic goiters.

Since I always found a goiter on the neck, my attention was drawn immediately to the diagnosis, as I never failed to find dyspnea present, the main symptom.

Owing to the fact that most of my cases date back a number of years when roentgenology had not reached the point of perfection of today, I depended in the first place on the clinical symptoms.

TRACHEOSTENOSIS

As dyspnea caused by compression of the trachea is the main symptom in intrathoracic cases, I may be permitted to consider this phenomenon for a moment. A normal trachea has the form of a stirrup. Compression by a goiter at any height naturally changes this picture. We have accurate knowledge from specimens taken at necropsies and we know that the natural picture of the trachea can be distorted in almost every way. There may be a sheath formation, or a half-moon formation. The trachea may be strictured circularly by a circular goiter. The trachea may also be deviated to one side, it may be distorted by two different goiters on different sides and even at different heights. There may be a trachea twisted in such a way that surgeons formerly spoke of a scoliosis.

At the beginning of the nineteenth century, a French surgeon (Lullier-Winslow) described the sheath formation of a trachea. Demme, a surgeon in Bern (Switzerland) in the first half of the nineteenth century, demonstrated the same tracheal deformity with brilliant illustrations that have impressed surgeons.

An interesting controversy was started by Rose in the eighties. He had a series of sudden deaths. Some occurred at the time of the goiter operations, and others hours following the operations. He thought that more important than the compression of the trachea itself was the fact that the trachea became softened at the place of pressure. He explained this softening through fatty degeneration. His statement encouraged a number of eminent surgeons of those days to look up matters histologically. The lengthy debate ended in the accepted fact that no fatty degeneration existed in the cartilage, but that an atrophy of the cartilage became evident. Rotter then found the interesting point that the membranous bands between the cartilaginous rings were elongated in all these cases of compression of the trachea. It was then left to Woelfler to settle this argument, and at the same time bring out facts which led us to believe that the deaths which Rose had on the operating table and which he believed to be due to the softening of the trachea resulted from a collapse of the trachea at inspiration. At the time of expiration, such trachea freed through operation will fill with air like the sail of a boat, but during inspiration the trachea aspirates itself, that is, collapses. The goiter on the trachea is a support and acts like a splint.

I had the opportunity to witness this phenomenon in three cases, though nonintrathoracic. Not having been compelled to make a tracheotomy for any of my intrathoracic goiters, I may be permitted to mention briefly those three cases. They were all in girls from 15 to 20 years old, and all were double goiters. In two of them I was forced to add a tracheotomy within twelve hours after the operation. The dyspnea following the excision gradually became more marked, intercostal inspiration was exceedingly plain. The third patient, with a double struma vasculosa, was breathing with marked stridor. Excision of one goiter cleared the respiration, but as soon as the other side was removed the trachea collapsed at inspiration. I acted quickly and incised the trachea at once. All three patients recovered.

Tracheostenosis very seldom requires surgical correction at the time of operation. The trachea cannula, however, must always have its place among the instruments.

CONCLUSION

If I may be allowed to compare my work in intrathoracic goiters with the general work in goiters, I am impressed by the rather gratifying results, in view of the fact that no other operation has more marked and immediate success. The patient who, with his labored breathing and his cardiac trouble, appears to himself and to others an invalid is now, through removal of the growth in the chest, restored to health immediately.

Maternity Benefit Systems.—The United States is the only one of the leading industrial countries of the world to have no system of state national assistance to maternity according to the Children's Bureau of the U. S. Department of Labor. The countries having such systems are Australia, Austria, Bosnia, Denmark, France, Germany, Great Britain, Herzegovina, Hungary, Italy, Luxemburg, Netherlands, New Zealand, Norway, Roumania, Russia, Serbia, Sweden and Switzerland. Few of these countries offer benefits to all mothers, but there is a general agreement that wage earners shall be included. The benefits provided consist usually in money, either a lump sum or weekly payments, and occasionally in medicine and medical and surgical services. The expense of the benefits is most frequently shared by the wage earner, the employer, and the state, the wage earner contributing the largest share. In Australia and France, however, *the government bears the entire cost*. Australia in 1913-1914 paid out $3 284,839 in maternity allowances and France calls on the national government for over $1 000 000 annually and gets another $1 000 000 annually from local government for this purpose. The English benefits are part of a health insurance scheme for wage earners of which the government bears a share equal in the case of the women to one fourth of the total benefits. In New Zealand there is a voluntary system of health insurance which includes a *maternity* benefit but it reaches so few mothers as to make its effect almost negligible. The method of attack is not through maternity benefits but through adequate nursing service, hospital and medical care and instruction in the hygiene of maternity and infancy. At present the death rate of New Zealand is the lowest in the world. Australia on the other hand gives a maternity benefit of 5 pounds over which there is no supervision.

Clinical Notes, Suggestions, and New Instruments

IMPROVEMENTS IN TECHNIC FOR THE OBSTETRIC NURSERY

Herbert Thoms, M D, New Haven, Conn

The daily use of the devices herein described has given excellent results in the maternity department of the Grace Hospital, New Haven, Conn The first is a simple and efficient method for the identification of babies in the obstetric nursery and the second is a new instrument for use in stretching and retracting the foreskin of newborn babies

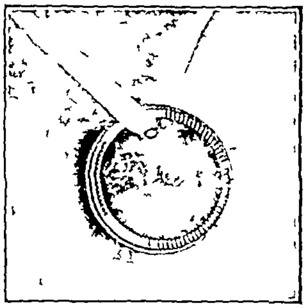


Fig 1 —Aluminum tag for identification of infants

In reading the transactions of the Brooklyn Medical Society for May 2, 1919, I became greatly interested in the various methods that were there described for the identification of babies All of the methods were efficient, but their adaptability to all maternity hospitals was not great After some experimentation, the method here depicted was adopted with uniform success, not only because of its simplicity but particularly because of its adaptability

A small aluminum tag the size and thickness of a 5-cent piece (Fig 1), with a raised edge and a perforation near the edge, is used This is readily written or engraved on with a steel pencil or machinist's stylet This makes, of course, an absolutely ineffaceable record Immediately after the birth and tying and cutting of the cord, this tag is tied around the baby's neck by means of linen tape, three knots being used in tying This tape is not only very strong but also unabrasive Aluminum is employed because it is noncorrosive, very light, inexpensive, nonabrasive, and readily written on with the steel pencil

The reaction of the mothers in the hospital since the adoption of this method is interesting Not only have they been delighted with their "tagged babies," but they insist on taking their babies home with the tag adornment undisturbed

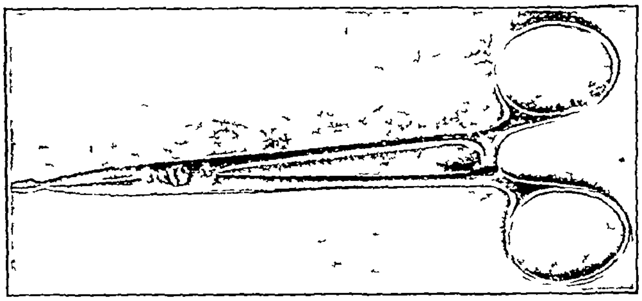


Fig 2 —Modification of hemostatic forceps for stretching and dilating foreskin

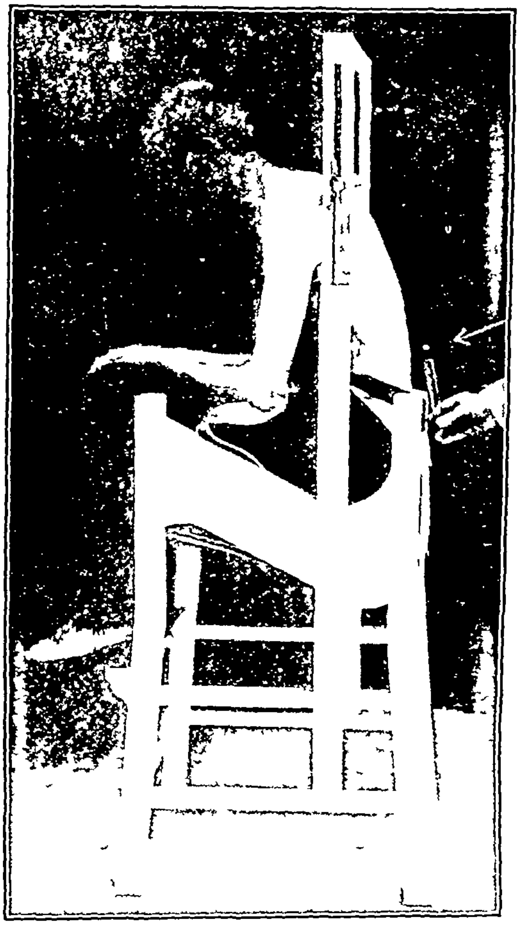
The instrument shown in Figure 2 is modified from hemostatic forceps Every one who has used the ordinary hemostat in stretching the foreskin of babies realizes how readily the instrument slips away from the penis In order to obviate this and to make a more even dilating surface, the instrument here shown was devised About 0 5 cm from the end of the forceps on each side is a marked concavity, the purpose of which is readily understood After the adhesions between the foreskin and the glans have been broken up with an ordinary probe this instrument is introduced between the glans and the foreskin, and dilatation is easily accomplished

59 College Street

A CHAIR FOR SPINAL PUNCTURE*

Norman E Williamson, M D Stockton, Calif
Pathologist, Stockton State Hospital

In the ordinary method of performing spinal puncture it is difficult to get the patient in the right position Even when the patient is held by attendants, as has been my practice, there is the possibility of sudden movement closing, more or less, the space between the vertebrae If a flexible gold or platinum iridium needle is used, there is no danger of breaking, but one may experience considerable trouble in inserting the needle, especially after it has been repeatedly kinked With the back properly bowed and the needle inserted, it is at times found that the needle is directed too near the perpendicular, and the fluid runs down the needle and is lost on the back This necessitates a troublesome change of position



Chair for spinal puncture arrow points to needle

I have devised a spinal chair which holds the patient in the correct position so that no attendants are necessary The front of the seat is so raised that the line of its fall to the lowest point forms an angle of 27 degrees to the horizon Back of this is a 5-inch curved rise to prevent the patient from sliding off backward When the patient is sitting at this angle with the back curved outward and the needle inserted, the point of the needle is elevated so that the fluid always drips into the test tube

A webbing strap with buckle attached to the back of the chair is fastened in front of the abdomen, and the curve of the back is obtained, and fixed by an adjustable bar brought down over the scapulae The rod passing through this bar can be fixed by a thumb screw to any point in slots in uprights erected at each side opposite the lowest point in the seat

The curvature of the back is maintained by three points of fixation, and the puncture is made with ease and safety

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* From the Stockton State Hospital

ACUTE MYELOID LEUKEMIA SIMULATING MENINGITIS

E E H Munro MD St Louis

REPORT OF CASE

History—Miss M W (589), aged 17, telephone operator, was admitted to the City Isolation Hospital, St Louis Sept 17, 1919, having been transferred from the St Louis City Hospital because it was suspected that she had meningitis Her past general health had been good Of significance in the past history is the fact that she had had an alveolar abscess of the superior right maxilla five months before admission The abscess had been lanced three times during the past three months It had given no trouble for the past two and a half months Occasionally during the past four months the patient complained of swelling of the feet in the evening Three times she fainted while at work

The present illness began five days before admission with headache (occipital) and slight vertigo The patient vomited twice during the first day of illness, although she was not sick enough to go to bed The next day the patient remained up but complained of vertigo and headache She vomited four times and slept poorly that night On the fourth day, fever and delirium developed On the fifth day the patient was in a stupor The family physician sent her to the city hospital where stiff neck and positive Kernig's and Babinski's signs were noted A spinal puncture was performed that evening and repeated the next morning The fluid was blood stained and under increased pressure Smears and cultures from the fluid were negative The patient was transferred to the isolation hospital as suffering from meningitis

Examination—On admission to the isolation hospital the patient was semiconscious the temperature was 105, the pulse 120, and the respirations 38 There was stiff neck, mild opisthotonos and slight external strabismus, the right pupil was more widely dilated than the left and both pupils reacted to light At intervals there was a twitching of the right side of the face Pressure over the right ear caused moaning and marked twitching of that side of the face Both ear drums were normal in appearance The teeth were in good condition The scar of the old alveolar abscess was seen but there was no evidence of active infection The tonsils were moderately enlarged and red The superficial lymphatics, cervical axillary, epitrochlear and inguinal were all slightly enlarged The systolic blood pressure was 135 and the diastolic, 75 mm The upper margin of the liver dulness in the right nipple line was at the fifth intercostal space, the lower border was palpable 6 cm below the costal margin in the same line The spleen was palpable 6 cm below the level of the umbilicus in the left nipple line It also extended 4 cm to the right of the midline of the abdomen A notch was made out at the level of the umbilicus There was general rigidity of the extremities more marked in the upper extremities Kernig s sign was positive The knee jerk was sluggishly active on the left and absent on the right On admission the plantar reflexes were hyperactive, on the following day Babinski s reflex was positive, on the third and fourth days all plantar reflexes were absent The blood count revealed 3 080 000 red blood cells, 720 000 white blood cells, hemoglobin, 40 per cent In the stained blood smear there were a number of large mononuclear cells the size of a myelocyte, with a nucleus which almost completely filled the cell This was also found in a lymphocyte which could not be accurately classified The differential count on admission was myelocytes 66 per cent myeloblasts 6 per cent , polymorphonuclear neutrophils 16 per cent large mononuclears 10 per cent , eosinophils 2 per cent and normoblasts 6

Diagnosis—A diagnosis was made of leukemia with hemorrhage into the central nervous system

Treatment and Results—Spinal puncture on four occasions revealed a yellowish pink fluid under increased pressure Smears and cultures disclosed no organisms The Wassermann and tuberculosis complement fixation tests were negative Blood cultures were negative A catheterized specimen of urine showed albumin and a large number of hyaline and finely granular casts

For four days the rectal temperature ranged from 103 to 105.6 On the last two days there was involuntary urination and defecation Several times a cool tap water enema was returned blood stained

Necropsy Findings—The patient died on the fifth day after admission Necropsy was performed four hours after death by Dr Sherry, city pathologist No evidence of an inflammatory condition anywhere in the central nervous system was found There was a very marked engorgement of the vessels of the meninges and an acute edema of the brain and cord No gross point of hemorrhage was found The omentum mesentery, and intestinal serosa showed many minute hemorrhages The intestinal mucosa showed diffusely scattered minute hemorrhages There was a small amount of free blood in the lumen

The chambers of the heart were filled with the characteristic greenish yellow clots Microscopically the heart showed great engorgement of the vessels and marked mononuclear infiltration between the muscle columns This engorgement of the vessels and mononuclear infiltration were seen in the liver spleen, ovary pancreas heart kidney cerebellum, spinal cord coverings lung lymph glands and intestine The capsule of the liver was thickened and directly beneath it and almost completely separating it from the parenchyma was a layer of mononuclear cells of varying thickness

The liver and spleen were very large The spleen weighed over 13 000 gm The spleen showed a number of sharply outlined yellowish lymphoid tumors giving the appearance of anemic infarcts

There was general hyperplasia of lymphoid tissue with notable enlargement of the mesenteric lymph glands and of Peyer s patches

COMMENT

Although the history of onset and the clinical picture presented by this case would lead us to suspect strongly a meningitis it is evident that the whole picture was produced by the leukemia

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Therapeutics

A Department Devoted to the Improvement of Therapy
A Forum for the Discussion of the Use of Drugs
and Other Remedies in the Treatment of Disease

MILK AS A VEHICLE FOR CASTOR OIL

Louie C Boyd, Williamsport Pa writes I was much interested in extracts from an article originally published in The Journal on giving castor oil I want to object emphatically to the giving of medicine in food and especially in milk Milk is too valuable a food for long usage (in tuberculosis for instance) to have the taste for it changed to utter disgust, with inability to take it with any relish because some medicine was given temporarily in milk In the matter of castor oil I suggest the following ways 1 Hold the nose and swallow the dose 2 Hold a piece of ice in the mouth for a time and then proceed as under 1 3 Put diluted lemon juice in a glass, rub the rind on the edge of the glass pour in oil and a small amount of diluted juice on top If desired a pinch of sodium bicarbonate can be dropped in which will make it froth 4 Put oil in the froth of soda pop '

Comment—The objection to the use of castor oil in milk or in any other food is well taken, and such objection was voiced in the article on castor oil referred to The fact remains however, that there are some patients who prefer to take it in milk, and that the odor of pure unspoiled castor oil is so faint as to be unobjectionable All the methods suggested by the writer are useful Especially interesting and, no doubt effective, is the use of lemon juice, as detailed under 3 though, unless the diluted lemon juice is sweetened, children would refuse to tak [illegible]

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, FEBRUARY 28, 1920

SOME FACTORS IN BONE REPAIR

In the process of the bone repair which follows fracture and other injury of the osseous system, there is frequently considerable debris to be eliminated, such as blood clots, injured bone fragments and other damaged tissue In addition to this necessity in the early stages of the reparative process, at a subsequent stage the preliminary or primitive new structure must in part be removed to give place to true bone The excess of the provisional callus which is organized in connection with a bone injury as a rule gradually disappears, so that, as in the course of bone growth, bone resorption is likewise an active process in the later stages of bone repair Osteoblasts are concerned first of all in the formation of primary bone from calcified cartilage Until quite recently, it has been assumed that the so-called osteoclasts, which function in the formation of the large central marrow cavities of bones and in the metamorphosis resulting in the permanent bone, are concerned with the absorption and clearing away of cartilage in bone growth They have been looked on as the scavengers of the developing osseous structures

The investigations of Shipley and Macklin[1] at the Johns Hopkins University have thrown doubt on the assumed phagocytic action of the long recognized osteoblasts By methods of vital staining with dyes belonging to the benzidin series of colors, it has become possible to identify throughout the body the special phagocytic cells which store the dyestuffs in the form of very minute dye granules, just as the mobile phagocytes of the blood engulf bacteria and other particles Of late the term macrophage, first employed by Metchnikoff, has been applied to the entire group of phagocytic cells which are characterized by a uniform functional response to these colloidal dyestuffs As a writer has recently remarked, the term macrophage is a physiologic designation including within its compass very diverse morphologic elements This similarity in staining reaction is but an expression of the phagocytic potentiality which these cells hold in common, and which manifests itself during their everyday existence in the ingestion and storage of certain elements of the surrounding tissue fluids Some time ago it was pointed out in The Journal that the resorption of disintegrating calcified tissue in the secondary stages of osseous development, if judged by the results with vital staining achieved by Shipley and Macklin,[1] must be attributed not to the osteoclasts but to fixed macrophages represented by the ordinary reticulo-endothelial cells of the marrow reticulum

It has now been demonstrated by Macklin[2] of the University of Pittsburgh that the same agencies function in the healing of bone wounds Macrophages, which stain brilliantly with trypan blue, soon congregate at the site of the injury, where they increase in numbers and in size, and demonstrate increased phagocytic power They assist in dealing with the tissue waste resulting from the trauma These phagocytes are developed principally from the lymphocyte-like cells of the blood stream, but some are derived from local mononuclear cells with phagocytic potentialities Most of them ultimately disintegrate in situ Furthermore, according to Macklin, during the structural changes attending the transformation of provisional into permanent callus, trypanophil macrophages develop in the callus spaces from the reticulum cells and become numerous, large and phagocytic They function in the removal of redundant bony spicules, their particular role being the absorption of the waste products formed by the breaking down of the matrix. When cartilage is present in the callus they also play a part in its removal Their action here is thus the same as that of the macrophages of developing bone

REGIONAL HEALTH SURVEYS

Napier Burnett,[3] a British expert on public health, has recently given an interesting account of a regional survey of the hospital situation in a northern district in England The success of the concentration and coordination of effort in protecting the health of troops which was exercised during the war seems to have opened the eyes of the British government to the possibilities of similar coordinated action during times of peace Among the results is the formation of a ministry of health in Great Britain Burnett's article indicates that the preliminary information on which action must be based is being gathered under this ministry

The survey which Burnett describes covered an area of 4,000 square miles containing a population of two and a half million people Data were collected covering the ratable value of property, the number and distribution of physicians and midwives in each locality, the various types of hospitals, dispensaries and convalescent homes, the birth rate and the infant mortality rate, the population living in one two and three room houses, and the transport facilities by rail and road As would be expected, certain facts were brought out which, in spite of difference in medical organization in the two countries are not without interest to American physicians There were clear indications that the number of beds available in general hospitals was entirely inadequate, there being only 0 76 bed per thousand of the population This was offset to some extent by the fact that there were as many beds available for infectious diseases as there were general hospital beds, and that, as contrasted with American conditions, there were a larger number of convalescent homes than exist in this country The report also brought out that there was a lack of accommodations for medical as contrasted with surgical cases, that the distribution of the hospitals throughout the district was very unsatisfactory, and that the hospitals were having difficulties on account of lack of funds, just as they are in this country

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[1] Shipley P G and Macklin C C The Demonstration of Centers of Osteoblastic Activity by Use of Vital Dyes of the Benzidine Series Anat Record **10** 597 1916 Some Features of Osteogenesis in the Light of Vital Staining Am J Physiol **42** 117 1916

[2] Macklin C C The Development and Function of Macrophages in the Repair of Experimental Bone Wounds in Rats Vitally Stained with Trypan Blue Publication 272 Carnegie Institution of Washington p 1

[3] Burnett Napier Edinburgh M J **23** 387 (Dec) 1919

The report is of particular interest because certain aspects of the hospital question are at present under scrutiny here One of the main points emphasized is the unsatisfactoriness of allowing the health machinery of a country to develop in a haphazard fashion There can be no question that if the hospital development of a given region should be preceded by a survey in which data are collected concerning the distribution of the population and other important factors, such as those mentioned, the locations of hospitals would frequently be quite different from what they are Now that an extensive hospital inspection is actually imminent in the United States, would it not be possible to combine with it the collection of information bearing on the health conditions of the population served by each hospital? It would seem that the situation presents a great opportunity for public service

COMPENSATORY RESPONSES TO THE OXYGEN WANT AT HIGH ALTITUDES

Life at high altitudes is liable to be attended with symptoms of illness, whether the sojourn in the regions of lowered barometric pressure be on a mountain, in a balloon, or in an aeroplane The essential cause of altitude sickness has been demonstrated repeatedly to be a lack of oxygen Whatever the method by which the oxygen supply of the body is reduced, there will occur adaptive reactions having the evident function of furnishing in some way the indispensable element that is needed by the active tissues All of the latter become sensitive to the oxygen want, but the responses are undoubtedly initiated in the central nervous system They are definitely stimulated at first In the effort to compensate for the reduction of the oxygen supply the blood, the respiration and the circulation may become involved Thus, as has been indicated repeatedly by THE JOURNAL there may be an increase in the amount of hemoglobin in the body, and associated with this a redistribution of the red corpuscles whereby a reserve supply is thrown into the general circulation, deeper breathing may bring about increased ventilation of the lungs, an increase in the rate of blood flow may occur Each of these responses tends to insure a more adequate supply of oxygen to the tissues [1]

In the acclimatization to oxygen want which follows the ascent of a mountain, the respiratory response is almost invariably the first to appear, beginning during the trip or almost immediately after the summit is reached The increment in the number of erythrocytes comes more slowly and gradually The alterations in the pulse rate may also be somewhat gradual These effects, brought about by protracted residence at high altitudes, in turn disappear only gradually when the person returns to a lower barometric level

As was recently pointed out[2] in relation to the more sudden shifts in altitude corresponding to the rapid flight of the modern aeroplane, similar adaptive responses are undergone by the aviator, but in contrast with the experiences of the alpinist, they develop much more quickly Gregg, Lutz and Schneider,[3] who have been engaged in extensive researches on these questions in the Medical Research Laboratory of the Air Service at Mineola, N Y, have found that following the more sudden changes in atmospheric pressure and oxygen tension such as may occur in aviation, there is no such uniformity in the relative response of the different adaptive mechanisms as is found after the slower ascents on mountains In other words, the relative values of the different compensatory reactions to low oxygen tension may differ as does the sensitiveness of different persons The aeronautic physiologists report that the majority of men appear to make a well-balanced use of the three mechanisms for supplying oxygen The ventilation of the lungs, the rate of blood flow, and the percentage of red corpuscles and hemoglobin are definitely increased Some meet the new condition largely by increased respiration, and others depend almost entirely on an increased blood flow In many individuals, during the early period of exposure to a decreasing oxygen, the burden of compensation is borne wholly by the circulatory and respiratory mechanisms, but later the blood changes relieve one or both of these mechanisms from a part of the burden There is evidently an interdependence and interplay of the adaptive mechanisms The same person may compensate differently in each of a series of emergencies associated with lowered oxygen

In another respect also the compensatory reactions to a rapid reduction in oxygen differ from experiences in mountaineering They disappear quickly when the oxygen tension is restored There is little lag in the changes induced Schneider and his co-workers[3] conclude that the differences in the responses observed under these two different conditions of exposure to low oxygen depend, no doubt, on the suddenness with which the low barometric pressure and low oxygen percentage have been decreased, and on the extent to which they were lowered In very slow and moderate changes, it is possible that no response may be evoked They add that possibly the respiratory center, by virtue of greater sensitiveness, may react so much to the stimulus that the increase in respiration for a time cares adequately for the oxygen requirement of the body In the more rapid decrease in oxygen tension, the respiratory and cardiac centers and very likely the vasomotor centers are stimulated at higher oxygen tensions and at about the same time Consequently, under some conditions these two mechanisms serve almost equally to care for the oxygen need of the body Evidently the problems of life at high altitudes must be considered somewhat separately for the various modes of ascent and sojourn in the upper reaches of the air The slow progress of the Duke of the Abruzzi to a height of 24,580 feet in the Himalayas, and the more rapid rise of Glaisher to an altitude of 30,000 feet in a balloon, have already been far surpassed by the swift record altitude ascents of the modern aeroplane, to which neither sea nor land any longer bars the way

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[1] An excellent review of the evidence for these adaptive change at high altitudes will be found in the Manual of the Medical Research Laboratory War Department Air Service Division of Military Aeronautics Washington D C 1918

[2] Low Barometric Pressure and Changes in Circulation editorial J A M A 74 250 (Jan 24) 1920

[3] Gregg H W Lutz B R and Schneider E C Compensatory Reactions to Low Oxygen Am J Physiol 50: 302 (Dec) 1919

THREE EARLY EPIDEMICS OF INFLUENZA

The history of epidemic influenza is a record of devastation and distress The earliest record of influenza in America was made by William Hubbard

> In the year 1647 an epidemical sickness passed through the whole country of New England both among Indians, English, French and Dutch It began with a cold and in many was accompanied with a light fever Such as bled, or used cooling drinks, generally died such as made use of cordials and more strengthening comfortable things, for the most part recovered

This is cited by Guy Hinsdale, whose contribution to the Osler memorial volume is a record of the epidemics of influenza in 1647, 1789 and 1807, as recorded by Noah Webster, Benjamin Rush and Daniel Drake Noah Webster, in addition to publishing his famous dictionary was also the author of a "Brief History of Epidemic and Pestilential Diseases" In this book, published in 1799, Webster described forty-four instances of influenza, dating in Europe from 1174 and in America from 1647 All of these epidemics are associated with earthquakes, volcanic eruptions, comets, droughts and similar disturbances of nature Thus Webster notes under the year 1647, "First catarrh mentioned in American annals The same year with violent earthquakes in South America, a comet"

The epidemic of 1789 was described by Benjamin Rush, who, as Dr Hinsdale says, had the unusual faculty and patience to set down the minute details of cases as they came under observation Dr Rush's account, which is reproduced verbatim, reveals a remarkable parallelism between the epidemic of 1789-1790 and that of 1918-1919 It includes a classic description of the sneezing, hoarseness and sore throat, the sense of weariness, chills and fever, pains in the head and infection in the frontal sinus "Many complained of a great itching in the eyelids In some the eyelids were swelled In others, a copious effusion of water took place from the eyes' Rush also describes mastoiditis, distressing cough and the final pneumonia, and the occurrence of secondary nervous and mental disturbances consequent on the disease

Twenty-seven years after the epidemic described by Benjamin Rush, there occurred another epidemic which was described by Daniel Drake, who was acting as an army surgeon to two regiments of militia in camps when the influenza swept down from the "East to the frontier post in the Ohio Valley where he was stationed" He describes the way in which the disease first attacked the men in his camp, secondarily, the towns surrounding, and finally the scattered inhabitants of the country districts "I need not give the history of any other prevalence," he says, 'as this illustrates the most constant of the laws which govern influenza first, its progressive extension from east to west, and second, its independence of all sensible conditions of atmosphere, third, its first outbreak in bodies of men, and compact settlements" Drake closes his account by mentioning the occurrence of purulent pleural effusions as the most serious sequelae

In connection with these reports we may point out that, allowing for the lack of knowledge of bacteriology and modern pathology, these early observers noted practically all of the important facts concerning this disease Their reports are vital evidence of the importance of close, systematic observation in the practice of medicine

Current Comment

ANOTHER WATER SUPPLY "ACCIDENT"

A recent report[1] of the typhoid outbreak at Lansing Mich, in March, 1919, illustrates once more the necessity of caring for the surroundings of public water supplies from deep wells The Lansing outbreak was apparently caused by leakage of sewage-contaminated ground water into the good water in the wells It is stated that no thorough and regular investigations had been made of the lead joints between suction pipes and casings, and that the piping was under water much of the time In March of last year, heavy rains caused the Grand River to rise eight feet, the pressure from this source forcing concentrated sewage into the sandy soil around the wells An extensive outbreak of intestinal disturbance followed almost immediately, 3,000 cases of so-called water-borne dysentery being caused Following this, eighty-two cases of typhoid developed, resulting in eleven deaths. This "accident," due to neglect of the surroundings of a good artesian water, is almost exactly similar to the extensive outbreak at Rockford,[2] eight years ago. Information about the cause of the Rockford outbreak and similar water-borne epidemics has been available for a number of years in the various technical journals dealing with water supply. It seems strange that such disasters can still occur, since every responsible engineer must be well aware of the necessity for safeguarding the casings and suction wells wherever a deep well supply is used as a drinking water source.

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[1] Engineering News Record 84 92 1919

THE 1920 INFLUENZA

The outbreak of influenza in the United States which began about the middle of January has now progressed far enough for its main characteristics to be plainly seen. It is noteworthy that the death rates from influenza and pneumonia in the large cities were below the usual average all over the country from May, 1919, to Jan. 1, 1920. The first marked change seems to have occurred almost simultaneously in Kansas City and in Chicago, where the influenza-pneumonia rates rose sharply in the week ending January 17, although in Chicago an excess over the average was not reached till some days later. The maximum mortality in Chicago occurred in the week ending January 31, but in Kansas City the mortality reached its height a week later. New York, Washington, San Francisco, Milwaukee and St. Paul all showed an increase in the week ending January 24, and many other cities were added to the list in the following two weeks. The Census Bureau report for the week ending February 14 showed that thirty-two out of the thirty-six large cities reporting had a largely increased death rate from influenza and pneumonia as compared with the February weekly average in 1917. The same report states that the number of death claims per thousand policies in force (42, 300 and 241) in industrial insurance had increased in the annual rate from 10.3 for the week ending January 24, 10.9 for the week of January 31 and 13.0 for the week of February 7 to 14.1 for the week of February 14. The relative severity of the 1920 influenza is difficult to estimate correctly at this time. If it is possible to repeat in several well chosen localities the exact enumeration of morbidity and mortality secured in a few places by the U. S. Public Health Service in 1918, there will be better opportunity for a judgment on this point. It is worth noting, however, that in several cities, Milwaukee, Minneapolis and Kansas City, for example, the total death rate was considerably higher in the week ending Feb. 7, 1920, than it was at any time during the 1918 epidemic. In Chicago the death rate, while not as high as in October, 1918, rose to a point far above that reached during the 1889-1890 influenza outbreak. Although the total mortality in Chicago for the first half of January was considerably lower than the mortality for the average of the corresponding weeks of 1913-1917, the influenza in the last two weeks of the month brought the total January mortality to 5,149, much the highest monthly mortality in the history of the city with the single exception of October, 1918, when influenza raged through the whole month. In Detroit, likewise, the epidemic has been severe. The weekly health reviews by the commissioner of health state that by the twentieth day of the epidemic there had been 1,161 reported deaths from influenza and pneumonia, as compared with 836 for the corresponding period in the 1918 epidemic. Up to the present writing the chief prevalence of the disease has been in the Middle West. According to the reports of the U. S. Public Health Service made by state health departments, Illinois has had the largest number of cases. Kansas, Wisconsin, Minnesota and California have also reported several thousand cases each. In the East, Connecticut and New Jersey had reported by January 31 a relatively large proportion of cases. It seems reasonable to suppose that most communities, at all events the larger cities and towns that have not already experienced an influenza outbreak in 1920, will have some recurrence of the disease. The impression seems to be in general that the disease is milder in its symptomatology and that the rate of incidence is considerably lower.

PHARMACY BY ACT OF CONGRESS

The school of political thought that holds to the *laissez faire* doctrine sometimes described as Manchesterism has always pooh-poohed the idea that it is possible to make men moral by statute. Should the present national experiment in prohibition be successful it will give the Manchester doctrine a body blow and do much to make "morality by act of Congress" an established fact. This same experiment is, apparently, bringing about even greater wonders. For, insolvable problems—as we have been led to believe—in the field of pharmacy have been solved within the short time that the Eighteenth Amendment to the Constitution of the United States has been in being. For years the gentlemen who have waxed rich and socially and politically powerful from the sale of those "patent medicines" whose most potent and powerful ingredient was alcohol have assured us with all the earnestness at their command that the alcohol in their nostrums was really but a regrettable incident in the manufacture. Alcohol has always been used in such cases, we were assured, for solvent preservative or extraction purposes and occasionally "to prevent freezing"! Consider the case of a "patent medicine" *more or less familiar to the readers of* THE JOURNAL—"Wine of Cardui." This woman's tonic which before the days of the *Food and Drugs Act*, was "a Certain Cure" and "Nature's Great Emmenagogue" later admitted (as per the *law's requirements*) *the presence* of alcohol to the extent of 20 per cent. Repeated and exhaustive experiments by some of the best chemists and pharmacologists in the country conclusively demonstrated that the alcohol was the most powerful and active drug in it. THE JOURNAL'S first extended article on this product brought the claim from the manufacturers that no more alcohol was used than was "needed as a solvent and preservative" and the further declaration that they had employed leading chemists who have sought widely for another preservative, but without success" In the court action that followed THE JOURNAL'S exposes the Wine of Cardui concern again emphasized its inability to diminish the amount of the alcohol As the company's attorney said in his opening statement, Wine of Cardui had been submitted to one of the great chemists in the United States "for the purpose of ascertaining whether or not any other solvent or preservative could be used rather than alcohol" This great chemist "found that 20 per cent of alcohol was the exact amount that would answer the purposes and that anything substantially beneath that amount would make the medicine spoil and would no longer act either as a solvent or as a preservative" "Wine of Cardui" continued to contain 20 per cent of alcohol—the irreducible minimum, according to the manufacturers, an unnecessarily large amount, according to the medical profession Then came national prohibition Today Wine of Cardui contains 10 per cent alcohol and its preservative powers have been fortified by the addition of benzoates Verily, the wonders of science are as nothing to the marvels of *legislation!*

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[2] Jordan, F. O.: The Rockford (Ill.) Typhoid Epidemic, J. Infect. Dis. 11: 21, 1912.

TISSUE CONSERVATION THROUGH THE ACTION OF QUININ

While there are numerous drugs and chemical substances that stimulate metabolism and lead to a breakdown of tissue and a corresponding waste of body material,[1] it is not easy to cite compounds that affect the organism in the direction of tissue conservation One of the latter, however, is quinin It has long been known that quantities of the drug too small to have marked pharmacodynamic effects may decrease the disintegration of nitrogenous compounds in the body The output of urea is diminished after administration of the alkaloid to persons on a constant diet, without any impairment of absorption from the alimentary tract It has even been suggested that the antipyretic action of quinin is in essence due to the lessening of metabolism and consequent diminution in the amount of heat liberated in the body Whether or not the fall of temperature often induced by the drug is due to lessened heat production is not positively determined Hence every evidence bearing on the effects of quinin is still of importance When a bird produces eggs, it separates from itself a considerable amount of protein for the formation of the egg white and egg yolk At the Station for Experimental Evolution at Cold Spring Harbor, N Y, Riddle and his associates[2] have apparently demonstrated that the amount of albuminous substance expended by the body in egg production is decreased under the influence of quinin In their experiments with it on ring-doves, less than the normal content of nitrogenous compounds was released by the albumin-secreting gland of the oviduct during egg production, thus furnishing an added illustration of the protein-conserving effect of the alkaloid, which is unique also in other ways

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THE NEW ORLEANS SESSION

The Scientific Exhibit

The Scientific Exhibit at the New Orleans session will be located on the third floor of the Hutchinson Memorial Building, the Medical Department of Tulane University Ample space has been provided for exhibits in the large laboratories while the halls afford abundant wall space for charts, diagrams, photographs and placards The amphitheater on this floor is equipped with projection apparatus screens, etc, and will be used for the demonstration of roentgenograms, lantern slides and moving picture films suitable for the Scientific Exhibit If sufficient material is offered a continuous program will be arranged for the four days of the session Applications for space in the Scientific *Exhibit or for assignment* on the program of the moving picture exhibit should be sent at once to the Director of the Scientific Exhibit, American Medical Association, 535 North Dearborn Street Chicago, stating the character of the exhibit, the amount of space or time required and the name of the individual or institution wishing to make the exhibit As space will be assigned shortly after March 1, applications should be made at once

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION PUBLIC HEALTH, ETC)

CALIFORNIA

State Society Meeting—The Medical Society of the State of California will meet May 11 12 and 13, at Santa Barbara instead of at Delmonte as at first planned Headquarters will be at the Hotel Ambassador

Physician Arrested—Dr Amos J Landis of Chico has been arrested on a charge of violating the state drug laws by the illegal sale of narcotics——A F Francis of Oroville was arrested on the charge that he is not a physician and is practicing without a license

Personal—Dr James H Barr Marysville health officer of Yuba County, and Dr A L Miller health officer of Yuba City, have been appointed assistant collaborating epidemiologists by the state board of health——Dr Walter M Dickie Los Angeles has been appointed director of the bureau of social hygiene of the state board of health

Illegal Practitioner Charged with Manslaughter—Mrs Gertrude Steele a naturopathic physician of Venice is charged with manslaughter and with practicing outside the limits of her certificate She was arrested following the death of her son-in-law, George A Blaha of Venice who was treated by Mrs Steele with a freckle lotion which is said to have caused his death

Bureau of Child Hygiene—The bureau of child hygiene of the state board of health became an entity following the passage of a law at the last legislature Dr Ethel M Watters, San Francisco, who formerly had charge of the juvenile court children in San Francisco and for two years was sanitarian of the social hygiene bureau of the state board of health, was appointed director

Diploma Lost—Early in January, 1920, a diploma issued to Dr William Hammond Worley by the Hahnemann Medical College and Hospital, Chicago, April 26, 1900, was reported to have been lost by the Railway Express Company in Los Angeles Officers of all state licensing boards are requested to be on the lookout for such a diploma, since it may have been stolen

Sun Cult Leader Arrested—Ottoman Zar-Adusht Hanish self-styled 'little master' of the Mazdaznan cult of sun worshipers Los Angeles, has been arrested by the Board of Medical Examiners on charges of grave offenses against minor children In 1913, Hanish was convicted in the federal district court of sending indecent matter contained in his cult book, "The Inner Circle" through the mails, and was sentenced to six months in jail April 25 1918, Hanish was charged with practicing medicine without a license, at which time he vanished

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[1] Illustrations are given by Higgins H L and Means J H J Pharmacol & Exper Therap **7** 1 1915

[2] Riddle Oscar and Anderson C E Am J Physiol **47** 92 (Sept.) 1918 Behre, E H and Riddle Oscar The Effect of Quinine on the Nitrogen Content of the Egg Albumen of Ring Doves ibid **50** 364 (Dec) 1919

League for Conservation of Public Health—The league will survey all the hospitals in the state and will soon promote a state conference of hospitals to discuss problems which will be brought up as a result of the survey Only those hospitals, whether large or small which have been adhering to a high standard of service will be included in membership The third annual meeting of the league was held in San Francisco Dec 29 1919, and the following officers were elected president Dr Dudley A Smith, Oakland, and vice president, Dr Granville McGowan, Los Angeles

COLORADO

Social Service at University—The Association of Collegiate Alumnae has taken charge of the medical social service of the University of Colorado dispensary and clinic, Denver, has organized a corps of volunteers for such service, and has placed in charge of the social service Miss Madeline C Ridgeway, formerly of Chicago

Influenza—The University of Colorado Denver, which was closed for two weeks on account of an epidemic of influenza, reopened February 16——The Denver *Post* announces that it will pay $25 000 to the physician finding a cure for influenza, the money to be paid after the cure has been approved by the Rockefeller Institute for Medical Research and Johns Hopkins University

Tuberculous Persons Should Not Leave Home—The Denver Anti-Tuberculosis Society has issued a leaflet entitled Why Tuberculous Persons Without Funds Should Not Leave Home" This leaflet gives a consensus of opinion of the tuberculosis workers of Denver in regard to sending indigent tuberculous sufferers West It is estimated that several hundred tuberculous persons without funds come to Denver every year and arrive almost penniless and without provision for their needs Since Colorado has no state sanatorium and Denver no municipal sanatorium, the care of such persons is limited to a few free private sanatoriums which are continuously overtaxed The society urges that states throughout the country plan definite programs to retain their indigent tuberculous patients, giving them effective treatment in state sanatoriums or in their own homes

ILLINOIS

Sanatorium Changes Hands—The Mennonite Sanitarium Association has purchased the Kelso Sanitarium property, Bloomington, and will conduct its hospital operations on an enlarged plan

More Money for Speedway Hospital—On February 20 the United States Senate adopted an amendment to the urgent deficiency bill adding $500 000 to the limit of cost of the Speedway Hospital

Personal—Dr William F Carroll New Holland who has been seriously ill with influenza has recovered——In the case of Dr Pierre J Fullerton Dupo against St Clair County in which he sought to collect $350 alleged to be due him for treating indigent smallpox patients the jury returned a verdict in favor of the county on the ground that Dr Fullerton had not been authorized to treat the patients

Chiropractor Arrested —According to report Frank D Whittenberg, a chiropractor living at Mt Carmel was arrested for practicing medicine without a license Whittenberg claims that State's Attorney Phipps of Wabash County told him to go ahead and practice without a license Whittenberg is now reported to have not only discontinued practice but also to have sold his office fixtures and left the state

Forged Prescriptions for Whisky—A recent investigation by the Illinois Department of Registration and Education shows that persons in Chicago are writing prescriptions for whisky on regular prescription blanks and forging the signature of Dr John W Sarpalius a licensed physician in Illinois Dr Sarpalius left Illinois some months ago and now resides in Alden Station Pennsylvania On leaving Chicago he left behind a number of prescription blanks with his name and address printed thereon These blanks were taken from his Chicago office and are now being used extensively for whisky prescriptions An inspector picked up thirty four in two drug stores in Chicago Each called for a pint of whisky for use "as directed" The department has no jurisdiction over the writing of whisky prescriptions but they were turned over to Major Dalrymple in Chicago for investigation

Chicago

Personal—Dr Ludvig Hektoen has been elected an honorary member of the Pathological Society of Philadelphia

Midwife Fined—Mrs Anite Salvino a midwife was fined $25, February 19, for failure to apply silver nitrate to the eyes of a baby in her care

Municipal Sanatorium—The January issue of the *Bulletin of the City of Chicago Municipal Tuberculosis Sanatorium* contains a detailed description of the vocational school for the tuberculous, by Dr John Dill Robertson profusely illustrated

Institute of Medicine Meeting—A meeting of the Institute of Medicine of Chicago will be held March 5, at the City Club, 315 Plymouth Court at 8 p m Prof James R Angell of the National Research Council will speak on The Organization of Research in a Democracy"

Reception and Dinner to Admiral Braisted—Surg-Gen William C Braisted of the United States Navy, President-Elect of the American Medical Association will read a paper before the Chicago Medical Society at its meeting Wednesday evening, March 3 A reception and dinner at the Palmer House at 6 p m will be tendered him previous to the meeting to which all members of the Association are cordially invited

Fraternity Dinner —The Alpha Omega Alpha Honorary Medical Fraternity announces that the annual dinner of the three Chicago chapters located respectively at the University of Illinois, University of Chicago, and Northwestern University, will be held March 1 at the Congress Hotel at 6 30 p m Among the speakers will be Dean Irving S Cutter, Omaha, of the University of Nebraska Dean John L Heffron Syracuse, of Syracuse University and Dr William W Root Slaterville Springs, N Y

Druggist Arrested for Practicing Medicine —Joseph P Baltrenas who owns a drug store at 1705 South Halsted Street, is reported to have been arrested recently for practicing medicine without a license and was fined $200 and costs Baltrenas had in his possession a license as a physician issued by the state board of health in 1916 but the name of the physician had been erased and that of Baltrenas substituted An inspector of the Department of Registration and Education recognized that it was fraudulent It later developed that the license had been stolen from the office of Dr Ralph Waldo Petersen Baltrenas claimed he had paid a certain senator" $3 500 for the license——Three other cases against Baltrenas will be heard in March, one for buying a license one for aiding and abetting in the purchase or sale of a license and still another for practicing under a license fraudulently obtained The maximum fine for each offense is $200 or one year in jail, or both

IOWA

New Officers—Northwest Iowa Medical Society at its annual meeting in Sheldon elected Dr Louis L Corcoran president and Dr Jay M Crowley secretary, both of Rock Rapids——Hardin County Medical Society at its annual meeting at Eldora elected Dr J Willard Caldwell Jr Steamboat Rock president Dr William H VanTiger Eldora, vice president, Dr William E Marsh Eldora, secretary, and Dr Clarence M Wray Iowa Falls, treasurer

KANSAS

Personal—Dr Louis B Gloyne, who has been serving as health director of Kansas City has been made city physician

New Officers—Brown County Medical Society held its annual meeting in Horton January 6 and elected Dr Roscoe T Nichols Hiawatha president Dr James S Rushton Morrill vice president and Dr James M Robinson Hiawatha *secretary-treasurer*

Venereal Disease Activities—During the period from July 1 1918 to Dec 30 1919 there were reported to the division of venereal disease of the state board of health 3 311 cases of gonorrhea 1 405 cases of syphilis and fifty-four cases of chancroid Treatment has been provided through clinics located at Wichita El Dorado Topeka Lawrence and Rosedale, and a clinic is expected to be in operation this month at Kansas City At these clinics [illegible] cases of gonorrhea 745 cases of [illegible]hili[illegible] [illegible] twenty-cases of chancroid have been treated In connection with the University Medical School at Rosedale, a public health laboratory has been maintained which has furnished an average of 500 Wassermann examinations a month since its establishment, Jan 1, 1919 At the quarantine camp established at Lansing twenty-one men and 340 women were detained in 1918, 157 men and 258 women in 1919

KENTUCKY

Libraries Consolidated—The libraries of the medical department of the University of Louisville and of the Jefferson County Medical Society have been consolidated and will be housed at the medical college

Eye and Ear Men Elect—The Louisville Eye and Ear Society at its annual meeting January 8 elected Dr Claude T Wolfe, Louisville president, Dr Albert L Bass, Louisville, vice president, and Dr Walter Dean, Louisville, secretary-treasurer

Contract Let for Government Hospital—The Dawson Springs Construction Company has received the contract for the construction of three main buildings of the $1 500,000 governmental hospital at Dawson Springs The hospital will be used to take care of discharged soldiers, sailors and marines This contract is for the erection of a hospital building, an administration building and a nurses' home and the combined cost will be $680 666

Personal—Col Dunning S Wilson has been discharged from the Medical Corps, U S Army, and has returned to Louisville——Dr Randolph Dade Jr, has succeeded Dr John W Harned, resigned, as health officer of Hopkinsville——Dr Daniel V Bentley Whitesburg is reported to be critically ill with cerebrospinal meningitis——Dr Lester A Crutcher, Louisville, has resigned to accept a position with the Kentucky State Board of Health and has been succeeded by Dr Louis A Mehler, Louisville——The Jefferson County court jury has refused to indict Dr Christopher G Schott, Louisville, who was charged with murdering his office assistant

Nutrition Survey—The big gray automobile known as the Child Welfare Special which the Children's Bureau of the United States Department of Labor is using to bring the welfare message to babies in villages and on farms has been cooperating in the nutrition survey in one of the rural sections of Kentucky The county selected was in the mountain district 250 cases were studied and it is hoped that the examinations will reveal the causes responsible for the malnutrition prevalent in this area The information was obtained by a house-to-house canvass and the examinations were made by the staff of the Child Welfare Exhibit in an automobile truck fitted as a model well-baby clinic with a government physician and nurse in charge The car is parked in a central location usually near a court house town hall lodge hall or woman's club One family at a time is received in the car the health history of the family is secured each child is examined weighed, and measured, and advice is given to the mother in hygiene matters

LOUISIANA

Ground Broken for Hospital—Construction work on the new Presbyterian Hospital New Orleans has been begun The new building will be three stories in height but eventually other stories up to ten will be added

Personal—Dr Joseph G Stulb New Orleans visiting physician to the Isolation Hospital has resigned——Dr Mayer A Newhauser New Orleans has succeeded Dr G C Chandler as president of the board of health of Shreveport

Laboratory Item.—Dr Abraham L Metz city chemist has tendered the use of his new chemical laboratory to the city of New Orleans and it was formally dedicated to the city s use, February 1 The plant represents an outlay of $15,000 and includes a library of 1 000 volumes

New Officers—At the annual meeting of the Rapides Parish Medical Society held at Alexandria, February 5 Dr Paul K Rand Alexandria was elected president and Dr George Antony Alexandria secretary-treasurer——Calcasieu Parish Medical Society at its annual meeting Dec 31 1919 adopted a resolution authorizing appointment of a committee to enter into negotiations with the state board of health regarding the establishment of a public laboratory in Lake Charles Dr John G Martin Lake Charles, was elected president Dr Cecil R Price De Quincy, vice president, and Dr Dempsey C Iles Lake Charles, secretary-treasurer

MASSACHUSETTS

Personal—Dr Fred D Jones, Springfield, has been appointed medical examiner (coroner) of the second Hampden, district, succeeding Dr Edward J Mahoney, Springfield resigned——Dr Frederick R Barnes, Jr, Fall River, has been appointed associate medical examiner (coroner) of the third Bristol district, succeeding Dr John H Gifford resigned——Dr Llewellyn H Rockwell has been appointed acting superintendent of the Long Island Hospital during the absence of Dr Charles E Donlan——Dr Samuel B Woodward was reelected vice president of the Worcester Chamber of Commerce at its meeting January 20——Dr William T Sedgwick senior professor in the Massachusetts Institute of Technology and head of the department of biology and public health, will be the first exchange professor with the universities of Cambridge and Leeds——Dr Oren M Deems Springfield, is reported to be seriously ill with pneumonia

MICHIGAN

Personal—Dr Albert C McLeod, Calumet has just returned after five years' service in the Royal Army Medical Corps——Dr E Charles Hughes, Armada has been appointed superintendent of the Burley Hospital, Almont

Industrial Earnings—According to the published report made at the annual meeting of stockholders Parke, Davis & Co earned net profits of $4 293 591 for 1919 The sales for the year were approximately $25 000 000 The gross profits were $6,604,702 and of this $2 000 000 was reserved for excess profits and income taxes and $194 845 for depreciation

Venereal Disease Clinics—Dr Garner M Byington, Charlotte, director of the bureau of venereal disease, announces that Battle Creek Lansing Kalamazoo, Jackson Flint Bay City Saginaw Detroit and Ann Arbor are operating venereal disease clinics in close cooperation with the bureau and that similar clinics will soon be established in Grand Rapids and Muskegon

Cancer Publicity—The entire December number of *Public Health* the monthly news bulletin of the Michigan Department of Health was devoted to cancer The number was prepared in response to a belief that public sentiment must be thoroughly aroused and organized, and that scientific data on the cancer problem must be given to the public if results are to be obtained in the campaign for the eradication of cancer

MINNESOTA

Personal—Dr Mabel S Ulrich Minneapolis has been appointed health director of the northern division of the American Red Cross

Decline in Mortality—The division of public health of the board of public welfare Minneapolis in its last bulletin gives a resume of the decline in the mortality from certain diseases since 1890 The deaths from typhoid fever per hundred thousand of population between 1891 and 1900 numbered 49 and in 1919 about 4, the deaths from diphtheria per hundred thousand of population from 1890 to 1899 averaged 0 43 compared to 0 165 in 1919, the deaths from tuberculosis per thousand population from 1890 to 1899 were 1 28 and in 1919 0 97, and the death rate of infants under 1 year which from 1900 to 1909 was 88 2 per hundred thousand dropped in 1919 to 66 5

MISSISSIPPI

Influenza—On account of the spread of influenza all of the rural schools near Purvis the town schools and the Lamar County Agricultural School have suspended indefinitely and all public meetings have been interdicted——The schools churches and other public places of Hazlehurst and Wiggins have been closed for the same reason

Home for Feebleminded—The Mississippi society for mental hygiene is urging the passage of a bill calling on the legislature for an appropriation of $200 000 with which to prepare and maintain a home for feebleminded for the next two years There are at present 1 317 feebleminded persons in the state 205 of whom are in state insane hospitals, 90 in orphanages 10 in the industrial training school, 14 in the state institution for deaf and dumb 345 in county jails, 214 on county poor farms and 439 in the state penitentiary

Mental Deficiency Survey—The report of the Mississippi Mental Hygiene Commission to the governor, January 7, after an exhaustive report on present conditions regarding mental deficiency in the state recommends the establishment and organization of a state colony and training school for the feebleminded, the organization of special opportunity schools as a part of the public school system these schools to emphasize training of the nervous system through the hands the organization of mental clinics, at the disposition of every school, court and social agency someone specially trained in medical and social service as related to mental deficiency the complete divorce of hospitals of the insane and the colony for the feebleminded from partisan politics and their organization under a state psychiatrist as director, and finally a system of state registration and state supervision of all mentally defective individuals

MISSOURI

Graduate Instruction in Pediatrics—Washington University, St Louis has established a course of graduate instruction in pediatrics to begin April 5 Particulars of this course may be obtained on addressing the dean of the school

Semicentennial Ceremonies —Jackson County Medical Society will honor with a dinner at the City Club Kansas City, March 4 members who have practiced medicine a half century Five members will be thus honored Brig-Gen Jefferson D Griffith, Kansas City, who graduated from New York University Medical College in 1870, Dr John C Rogers, Kansas City an alumnus of Washington University Medical School, St. Louis, in 1865, Dr John Wilson Kansas City a graduate of the same school in 1866, Dr John S Mott Kansas City a graduate of the University of Michigan, Ann Arbor, 1867 and Dr Thomas R. Thornton Lees Summit a graduate of Washington University, St. Louis, in 1868

Personal —Dr Owen P McPherson Kansas City, has recently received the medal of the first order of St Sava from the Serbian Government Dr McPherson was assigned to the American Military Red Cross Hospital No 5, in Serbia and afterward established two hospitals ——Dr Robert Vinyard, St Louis has been appointed assistant physician to the Frisco Hospital, Springfield ——Dr George M Boteler, St. Joseph, has been appointed assistant health officer of St Joseph and placed in charge of the emergency and influenza hospital ——Dr William D Fulkerson Clinton for thirteen years local surgeon of the Rock Island System has resigned and expects to retire to a farm near Catesville —— Dr Fayette C Ewing Webster Groves has moved to Alexandria, La , and has been appointed chief of the eye, ear, nose and throat department of the U S Public Health Hospital at that place

MONTANA

Western Montana Physicians Elect Officers—At the annual meeting of the Western Montana Medical Society held in Missoula, Dr Harry B Farnsworth Missoula, was elected president, Dr John P Ritchey, Missoula vice president and Dr James D Hobson, Missoula secretary-treasurer

Personal—Dr Roscoe C Main formerly of Marquette Mich , has succeeded Dr Louis W Allard resigned as health officer of Billings and Yellowstone County ——Dr Frank D Pease, Missoula has been appointed full time health officer of Missoula County and will assume his new duties, April 1

Public Health Hospital for Mental Diseases—A hospital for the treatment of mental diseases is being opened at Fort Harrison, Helena, by the United States Public Health Service Dr Arthur S Pendleton is the officer in charge The hospital will not be an insane asylum but is designed to care for men who have been mentally incapacitated in war service

NEBRASKA

Meningitis at College—Doane College and other schools in Crete have been closed and public gatherings prohibited because of an outbreak of cerebrospinal meningitis

New Officers—At the annual meeting of the Dodge County Medical Association held in Fremont January 1, Dr Byron B Hauser was elected president Dr James C Agee, vice president and Dr Grant S Reeder, secretary treasurer all of Fremont

Personal—Dr Jerome G Pace Lincoln has been appointed superintendent of the Modern Woodmen of America Sanatorium Colorado Springs succeeding Dr James A Rutledge deceased ——Dr Floyd C. Dean Hastings formerly superintendent of the sanatorium at Hastings has been appointed superintendent of the Kansas Sanatorium Wichita succeeding Dr Robert L Stokes resigned

NEW JERSEY

Changes in Sanatorium Management—Commissioner Burdette G Lewis of the Department of Institutions and Agencies has made the following recommendations to improve conditions at the New Jersey Sanatorium for Tuberculous Diseases Glen Gardner a roentgen-ray examination of every patient admitted to the institution the purchase of strictly fresh eggs and more careful adherence to the dietaries suggested by this department and approved by the federal bureau of foods and drugs the employment of a trained social worker the enlargement of the institution to accommodate enough patients to reduce the per capita cost of medical, scientific and social work and to provide home like surroundings including sitting rooms and play rooms for children

NEW YORK

Mental Clinic Established—The American Red Cross and health department of Plattsburg have started a mental clinic in that city under the charge of Dr John R. Ross medical superintendent of the Dannemora State Hospital

Tuberculosis Survey—A summary of the clinics which have been held in Oneida County under the auspices of the state department of health, by the State Charities Aid Association shows that 1,287 patients were examined of whom 214 or 16 6 per cent , were found positive, 390, or 30 per cent , suspicious, and 683 negative

Tuberculosis Association Bulletin.—The first issue of the *Bulletin of the New York Tuberculosis Association Inc* has made its appearance It is an eight-page periodical having for its purpose the dissemination of knowledge for the information of all those interested or engaged in the fight against tuberculosis in New York City and elsewhere Mr David Ryan is managing editor

Personal—Dr Reeve B Howland, Elmira has been reappointed health officer of Elmira for a term of four years —— Dr Frederick M Meader Albany director of the division of communicable diseases in the state board of health has been granted an indefinite leave of absence in order to accept an appointment as surgeon in the United States Public Health Service Dr Edward S Godfrey Jr has been appointed acting director of the division in the place of Dr Meader

New Organization to Fight Quackery—A national cooperative service under the name of the Doctors Service Corps and including physicians surgeons and dentists has been organized for the detection and punishment of dead beats and as an intelligence service to operate against frauds The movement is endorsed by Prof Irving Fisher of Yale Major A R Crane formerly chief dental surgeon to U S Army General Hospital No 1 and Herbert D Brown chief of the Bureau of Efficiency Washington, D C

New York City

Meeting in Memory of Sir William Osler—A meeting in memory of Sir William Osler is scheduled to be held February 28 at 8 30 p m in the New York Academy of Medicine

School Hygiene—The bureau of public health education department of health has instituted publication of a monthly pamphlet *School Health News* for the information of school teachers

Personal.—Dr T Mitchell Prudden who has been a member of the Public Health Council since its inception was recently reappointed by Governor Smith for a term of six years ——Dr Elbert M Somers Brooklyn has been appointed deputy medical examiner of the bureau of deportation by the State Hospital Commission

Seamen's Service Center—The Seaman s Service Center operating under the direction of the Surgeon General of the United States Public Health Service in cooperation with the Red Cross and volunteer agencies was recently established for the purpose of assisting merchant seamen entering the port of New York The center will be conducted as a clearing house for the sick disabled and needy sailors of the merchant fleets of the world

OHIO

Verdict for Physician.—In the case of Ralph Meyers against Dr Corwin T Hill Akron in which the plaintiff sought to recover $25 000 on claims that the d [illegible] negligent in treating a fracture of the leg, a verdict in favor of the defendant was returned by the jury after a fifteen minute session

County Health Commissioners—Of the eighty-eight counties of the state, fifty have already organized under the Griswold act, and thirty-nine health commissioners have been appointed, twelve of whom are to serve full time Twenty-five of the fifty counties have made provision for a public nurse, and thirty nurses have already been named

Chiropractors Fined—It is reported that Mike Klotz, a chiropractor residing at Akron was fined $200 and costs in the municipal court of Cleveland for practicing medicine without a license——A report also states that A M Hoch, chiropractor at Cleveland, was fined $500 and costs and that M Pottgeiser, a chiropractor of Cleveland, was fined $100 and costs on a similar charge

Prosecutions During 1919—A letter received from Dr Herbert M Platter, secretary of the Ohio state medical board states that during 1919 thirty-two individuals were convicted for the illegal practice of medicine and four for the illegal practice of midwifery, and the certificates of seven physicians were revoked and one certificate was suspended Fifteen other individuals against whom cases were pending left the state and for that reason were not brought to trial

Personal—Dr Benjamin I Harrison, Cleveland, has been awarded a traveling fellowship for one year by Western Reserve University Dr Harrison saw service with both the British and American Expeditionary Forces during the world war He will initiate his studies at the University of Oxford England——Dr William S Warren, Jacobsburg, was seriously injured by the overturning of his automobile near Businessburg, February 3——Dr Chester M Peters, Canton, has been appointed health commissioner of Stark County

Hospital Items — Plans for the $500 000 hospital to be erected at the Masonic Home have been approved by the trustees——The plan, which has been under consideration for several years, for the erection of a joint tuberculosis hospital by the counties of Muskingum Fairfield, Perry, Licking and Coshocton has been abandoned so far as the Muskingum County commissioners are concerned——The Massillon State Hospital has been granted an appropriation of $130,000 for a new hospital building and an industrial ilding The present industrial building will be converted o a cottage The capacity of the hospital will thus be creased so that 130 additional patients can be accommoted

PENNSYLVANIA

Conference of Industrial Physicians and Surgeons—The state department of labor and industry will convene the tenth conference of industrial physicians and surgeons in the state capitol, Harrisburg, March 25

Philadelphia

Drive for St. Agnes' Hospital—For the first time in its thirty-two years of existence, St Agnes' Hospital will appeal to the public for funds in a drive for $500,000 to be inaugurated March 15

Osteopaths Lose Test Case—The first step in a test case brought to determine whether or not practitioners of osteopathy may prescribe and administer drugs to patients was lost by the osteopaths when Judge Martin in Quarter Session Court refused to grant a new trial to Philip S Dailey and fined him $50 and the costs of prosecotion

Personal—Dr Robert N Keely has been appointed surgeon of the Philadelphia Nautical School's schoolship *Annapolis*——Dr Max R Gabrio has been appointed chief resident physician at the Philadelphia Hospital for the Insane at Byberry to succeed Dr James Allen Jackson, resigned ——Dr Edgar Fahs Smith was unanimously offered the position of provost emeritus of the University of Pennsylvania by the board of trustees——Dr John F X Jones has been appointed a member of the surgical staff of St Agnes' Hospital

Influenza Fund—The city council has passed a general appropriation bill by which $50,000 will be available for combating influenza or for use in any other health emergency The director of public health and charities will expend the money, subject to approval of the mayor, president of council and chairman of the finance committee The latest report indicates that influenza is decreasing the number of persons taken ill in the twenty-four hours ending at noon February 19 was 176 as compared with 219 on the preceding day, with 100 deaths from influenza, pneumonia and complications

CANADA

Medical Building for University—The United States Consul at Calgary, Alta, reports that a new medical building to cost $750 000 is to be erected for the University of Alberta The plans have already been prepared and the construction will be commenced as soon as weather conditions permit

Disease Record of Ontario—There were almost 2,000 fewer deaths from communicable disease in Ontario during 1919 than in the previous year Although more than 3,000 cases of smallpox were reported only nine deaths were recorded Diphtheria caused 428 deaths and tuberculosis showed a slight increase, 2,234 cases and 1,722 deaths, as compared with 2,122 cases and 1,359 deaths in 1918

Mental Hygiene Survey—The Canadian National Committee for Mental Hygiene which was organized in April, 1918, has already conducted mental hygiene surveys in British Columbia, Manitoba, and Guelph Ont Governmental requests have been made for surveys during 1920 by the provinces of Alberta and New Brunswick, and the cities of Fort William and Port Arthur Ont, while surveys are now in progress in Toronto and Ottawa, Ont, and Montreal, Que

Postgraduate Course in Public Health Nursing —In cooperation with the Victorian Order of Nurses and the public health, charitable and philanthropic organizations of Halifax and Dartmouth, Dalhousie University has inaugurated a course in public health nursing limited to graduate nurses The Nova Scotia branch of the Canadian Red Cross Society has provided twenty scholarships of a value of $200 each Lectures will be given chiefly by members of the medical faculty and will deal with every phase of public health nursing These courses will be augmented by eighteen hours of field work each week in social service, prenatal hygiene, infant welfare and school medical inspection service, by attendance at public clinics and by visits to all hospitals, industrial schools and health and social centers in Halifax Upon successful completion of the full course of six months, a certificate of proficiency will be awarded to candidates

GENERAL

Duty on Scientific Apparatus—The Senate Committee on Finance has approved the bill placing a duty of 45 per cent on imports of surgical and scientific instruments and laboratory glassware There was no opposition to this bill before the committee

New England Medical Women Elect Officers—At the annual reunion and banquet of the Medical Women of New England held in Boston, January 17, Dr Agnes C Vietor was reelected president, Dr Margaret L Noyes Kleinert, vice president, Dr Alice H Bigelow secretary, and Dr Isabel D Kerr, treasurer, all of Boston

Transportation for Railroad Surgeons—Physicians who act in a professional capacity for railroads will continue to have the privilege of free railroad transportation The clause in the railroad bill as it passed the House of Representatives which would forbid free transportation to physicians, has been eliminated by the conference committee

Hospital Society Enlarged—The National Methodist Hospital Association at its meeting in Chicago February 12, voted to include homes for aged and for dependent children in its organization Plans for cooperation with the interchurch world movement were discussed giving over an item of $100 000,000 in the budget for Methodist hospitals Mr E S Gilmore, superintendent of the Wesley Memorial Hospital, Chicago was reelected president and M C England, Cleveland vice president

Board for Ophthalmic Examination—The next examination of the American Board for Ophthalmic Examinations will be held in New Orleans April 26 at the time of the meeting of the American Medical Association Applications and necessary credentials of candidates who desire to take the examination and obtain the certificate of the board should be in the hands of the secretary, Dr William H Wilder, 25 East Washington Street Chicago, at least sixty days before the time set for the examination

Health Work in Colleges and Universities—In connection with the annual Conference on Public Health and Legislation called by the Council on Health and Public Instruction of the American Medical Association at the Auditorium Hotel

Chicago, on March 4, 1920 Dr John Sundwall university health officer for the University of Minnesota, and Dr Warren E Forsythe, director of the university health service of the University of Michigan, have issued a call for all persons interested in health work in colleges and universities to attend a special meeting to be held at some convenient time during the conference to discuss special features of such work and possibly to effect an organization and arrange for meetings in the future The time and place of the meeting will be announced at the conference

Appropriations for Public Health Service—In the emergency deficiency bill which has just passed the Senate there is an appropriation of $3 000 000 for medical, surgical and hospital services for war risk insurance patients of the Public Health Service The expenditure of this money is made immediately available to care for the work of the Public Health Service in behalf of former service men of the Army and Navy There is also included in this bill provision for the final purchase of the Broadview Hospital—Speedway—at Chicago Ill This hospital will be used by the Public Health Service in the care and treatment of war risk insurance patients Three million dollars has been appropriated heretofore for the purchase of this hospital and an additional sum of $500 000 is necessary to complete the construction of the hospital and make it meet the needs and purposes of the Public Health Service

Philippine News—The municipal council of Manila has approved an appropriation of *25 000* pesos (about *$12 500*) to furnish free of cost condensed milk to indigent children during the year 1920——There has been held recently at Batangas, the capital of the province of the same name the meeting of the physicians of the twentieth sanitary district The district sanitary director, Dr Jose M Raymundo presided, and the meeting was attended by some of the most prominent Filipino physicians, including the director of public health, Dr V de Jesus Drs P Gabriel and J B Cabarrus——Plans are being made for the construction of a municipal hospital at Tondo at an estimated cost of 1 000 000 pesos (about $500 000)——The following appointments have been announced Dr Jose Avellana Basa to be physician in chief of the Culion leper colony, Dr Guillermo S Sison to be president of the thirteenth sanitary district division of Pangas, Dr Fernando Calderon to be member of the board of trustees of the University of the Philippines and Drs Jose P Bantug Otto Schobl and Proceso Gabriel to act as a committee to report on the convenience and mode of enforcing anticholera vaccination in the Philippines

The Dye Industry Bill—Physicians as well as chemists are interested in the action of the Senate Committee on Finance in favorably reporting the dye industry bill This is due to the fact that the manufacture of synthetic drugs is directly connected with the dye industry The bill places import duties on dyes and an embargo on their importation in order to encourage American laboratories to build up an industry which will be able to compete with the German monopoly heretofore dominating in the manufacture of synthetic drugs The bill has already passed the House of Representatives It provides a *tariff of 30 per cent on* acetanilid suitable for medicinal use, acetphenetidin acetylsalicylic acid, antipyrin, benzaldehyd benzoic acid betanaphthol phenolphthalein, resorcin salicylic acid and its salts, salol and other medicinals The subcommittee held extensive hearings covering a period of several weeks and important statements on the subject of the development and production of synthetic drugs by American laboratories were made by Dr Marston T Bogert professor of organic chemistry of Columbia University New York and Dr Julius Stieglitz chairman department of chemistry, University of Chicago

Decennial Pharmacopeial Convention—The United States Pharmacopeial Convention has issued the call for its tenth decennial meeting at 10 a m, May 11 in Washington D C at the Hotel Willard One of the first and most important activities of the convention will be the election of fifty delegates who will constitute a committee on revision to which will be assigned the task of determining the general principles to be followed in compiling the tenth revision of the pharmacopeia The United States Pharmacopeial Convention is a corporation constituted of delegates elected by a number of organizations associated for the purpose of revising the United States Pharmacopeia every ten years The interests of practitioners of medicine are conserved by delegates from the American Medical Association the state medical associations the medical colleges and the medical departments of the U S Army U S Navy and U S Public Health Service. Each of these organizations should promptly select three qualified and competent delegates who will attend the convention and take active part in framing its policies Because of the importance of the work and because of the great responsibility it entails, the medical profession should be properly represented Forms for certifying the delegates to the convention are to be obtained by adderssing Dr Noble P Barnes Arlington Hotel Washington D C These forms should be properly executed and the delegates reported to Dr Barnes at least six weeks before the date set for the convention

Legislation for Physical Education—A bill for the promotion of physical education through cooperation of the federal government with the states has been introduced by Congressman Fess of Ohio It provides for the employment of supervisors and teachers of physical education including medical examiners and nurses The work is to be conducted under the direction of the National Bureau of Education and the Public Health Service The bill appropriates $10 500 000 for 1921 and $1 per year thereafter for each child of school age the money to be apportioned to those states which shall appropriate on equal amount Its provisions include a comprehensive course of physical activities periodical physical examination health supervision of schools and schoolchildren practical instruction in the care of the body and in the principles of health The bill also provides for the establishment in the Public Health Service of a division of child hygiene This bureau is to be in the charge of a commissioned officer of the Public Health Service who shall select other employees to assist him in his duties These duties shall be to study and investigate the problems of child hygiene to cooperate with state boards of health in medical research and practical administrative demonstrations relating to the health of women children and to child bearing and shall cooperate with the children's bureau of the bureau of education in matters relating to health conservation of children and mothers An elaborate plan for cooperation with state authorities is formulated in the measure

FOREIGN

Lister Memorial Institute—The project which originated before the war for the establishment in Edinburgh of a memorial to the late Lord Lister has been revived The memorial is to take the form of a scientific teaching and research institute under the auspices of the University of Edinburgh the Royal College of Physicians and the Royal College of Surgeons of Edinburgh

Statistics on Venereal Diseases in Germany—The minister of the interior sent a questionnaire to all the physicians in Germany asking for the number of cases of venereal diseases in their charge between Nov 15 and Dec 14 1919 The names of the patients were to be written on a perforated slip accompanying the questionnaire but this was to be torn off and retained for the writer s information if need arises later

Insane Aliens in Switzerland—At the recent semiannual meeting of the Societe des medecins alienistes suisses a resolution was adopted asking the authorities for regulation of conditions in regard to alien insane It has been found that many of the interned who required psychiatric treatment and were repatriated at the proper time have returned to Switzerland instances being known in which their home authorities paid their transportation back to Switzerland

Personal—Dr Swale Vincent since 1904 professor of physiology at the University of Manitoba Winnipeg has been appointed professor of physiology in the University of London Middlesex Hospital and will probably take up his new duties early in May——Dr Harold Pringle lecturer on histology and assistant in physiology in the University of Edinburgh has been appointed professor of physiology in Trinity College Dublin succeeding the late Sir Henry Thompson

The International Pneumothorax Association—The *Policlinico* announces that now after the interregnum of the war the international association entitled Pneumothorax Artificialis is to resume its work The association intends to revive the international review *Pneumothorax Therapeutique* founded by Forlanini but for the present has made arrangements with *Tuberculosi* published at Rome which has agreed to summarize all the works on artificial pneumothorax as they appear in 1920 The secretary of the [illegible]tion is Prof U Carpi Lugano Italy

French Children and the World War.—The effect of the war on the children of France is shown in a recent report submitted by the American Red Cross headquarters at Lille, based on the figures of the municipal bureau of hygiene. Before the war the city had a population of 200,000. The birth rate has shrunk from nearly 4,900 in 1913 to only 600 in 1918 and the figures by years indicate a loss of 15,000 births during the war. Since the armistice a survey has been made in all public and private schools to determine the number of children whose development has been retarded, and to place those with signs of tuberculosis in the care of institutions and welfare organizations. Of 18,000 children in the schools of Lille at the time of the armistice, over 6,000 had to be sent to hospitals or convalescent centers, 60 per cent showed signs of arrested development, while about 40 per cent gave evidence of glandular or pulmonary tuberculosis. In one typical school, out of 210 examined only one child was in normal health.

Deaths in the Profession Abroad.—**Dr. W. Schallmeyer** of Munich, whose work, "The Threatened Physical Degeneration of Civilized Races," won the Krupp prize in 1903, aged 62.——**Dr. Schottelius**, director of the Institute of Hygiene at Freiburg for many years, aged 70, has been missing since last September. He was visiting a lake resort when last seen.——**Dr. R. Stierlin**, professor of surgery at the University of Munich.——**Dr. A. Knoblauch**, aged 56, whose atlas of chronic diseases of the nervous system appeared in 1919. He was the constantly reelected president of the Senckenberg Society for Scientific Research at Frankfort.——**Dr. Hoffmann** of Heidelberg, author of various works on neurology, aged 62.——The cable brings word of the death of **Dr. E. Wertheim**, professor of gynecology and obstetrics at the University of Vienna, whose name is associated with operations for uterine cancer.——**Dr. Calatraveño**, a leading pediatrist, hygienist and medical editor at Madrid and honorary member of numerous scientific societies at home and abroad, aged 58.

LATIN AMERICA

Foot and Mouth Disease in Bolivia.—According to a cablegram received from Bolivia, foot and mouth disease is prevalent among the cattle of the department of Cochabamba.

Plague in Uruguay.—During the recent outbreak of the plague in Uruguay there were seventeen cases with two deaths, all of which occurred at Santa Rosa, department of Canelones, in October and November, 1919.

New Members of the Uruguayan Public Health Council.—Drs. Alfredo Vidal y Fuentes, Jose Mainginou and Jose Infantozzi have been appointed president and members, respectively, of the National Council of Hygiene of Uruguay.

Influenza in Mexico.—A cablegram from Mexico states that the epidemic of influenza continues to spread. In the Military School classes were suspended and public business is suffering because of the absence of employees. The disease is of a mild type.

New Hospital for Panama.—Construction work on the new national hospital for Panama has been begun at El Hatillo, a high point facing the Pacific in a suburb of Panama. The hospital will cover a site of fourteen acres and will be composed of eleven reinforced concrete buildings arranged in rectangular form with accommodations for 600 patients. The construction is in charge of Major Edgar A. Bocock, M. C., U. S. Army, at present superintendent of the Santo Tomas Hospital, Panama.

Panama Nurses' Graduation.—At the graduating exercises of the Santo Tomas Hospital Training School for Nurses, January 31, diplomas were presented to the seven graduates by Major Edgar A. Bocock, M. C., U. S. Army, superintendent and director of the training school. Thirty-five selected pupils of Panamanian nationality form the school and during its three years of operation twenty-nine diplomas have been awarded to successful graduates, who are now found in several hospitals of South America.

International Sanitary Conference.—The sixth International Sanitary Conference of the American Republics will convene at Montevideo, Uruguay, Dec. 12-20, 1920. The invitations for the conference will soon be sent by the Uruguayan government, and the program will be issued by the International Sanitary Bureau in Washington, of which Dr. Rupert Blue, U. S. Public Health Service, is acting chairman. As indicated by Dr. E. Fernandez Espiro, the chairman of the organization committee, the chief subject for discussion will be the improvement of sanitary conditions in American countries.

Government Services

Health of the Army

For the week ending February 13, influenza continued to be reported from almost all the camps in decreasing numbers. The number of new cases of pneumonia following influenza is also decreasing. The death rate for disease is lower than for the previous week. Among the American forces in Germany, influenza and measles continued about the same, while pneumonia showed a slight increase. Among the American forces in Siberia, influenza and pneumonia were also prevalent.

Eighty-Ninth Division Medical Association

The officers who served with the Eighty Ninth Division have formed an organization to be known as the Eighty-Ninth Division Medical Association, of which Dr. Czar C. Johnson, Lincoln, Neb., is acting organization secretary. The purpose of the organization is to perpetuate the association of the 260 medical officers who at some time served with the division, by keeping a roster of membership and by a reunion at some central place each year for a professional and social meeting. The first reunion will be held in Kansas City, Mo., during the summer or early fall.

Medical Officers Over Fifty May Remain in Service

Senate Bill No. 3608 provides for the retention in service of certain "persons under the age of fifty years," who shall have served as officers of the medical, dental or veterinary corps in the United States Army, the National Guard in the service of the United States or in the National Army between April 6, 1917, and Nov. 11, 1918. It is suggested that, should the Senate do justice to the small number of officers now holding temporary commissions, who will be barred from entering the Medical Corps by reason of having attained the age of fifty years, an amendment be offered to the bill inserting after the words "fifty years" "or complete twenty or more years of commissioned service with regular troops before reaching the age of 64 years," etc. Under the present bill many valuable officers over fifty years of age will be eliminated from the Army.

Foreign Correspondence

LONDON

Feb. 7, 1920.

Medical Secrecy in Venereal Cases

Unlike the conditions in other countries, the English law recognizes the inviolability of the medical secret. The question has just arisen in a new form. During the hearing of an undefended suit for divorce brought by the wife, a physician was called on to give evidence that he had treated her for venereal disease. Adultery was proved, but in this country a woman suing for divorce must prove cruelty also. In this case the charge of cruelty was based on the communication of syphilis to her by the husband. A physician from the Westminster Hospital was called to prove that she was suffering from syphilis. Before giving evidence he handed the judge a letter from the chairman of the house committee stating that the hospital had adopted the national scheme for dealing with venereal disease and enclosing a copy of the statutory regulations, one of which enjoined absolute secrecy on the physician who attended the patient. The judge (Justice McCardie) said that the physician was one of those who were desirous of assisting the scheme for treating venereal diseases in every way, and for that purpose he wished loyally to maintain the secrecy which rightly rested on him. But in a court of justice there were even higher considerations than those that prevailed with regard to the professional position of physicians. Apart from the obligation that might be imposed on physicians by the judge, it was desirable that there should be a loyal observance of the confidence that was reposed in them by patients. He then ordered the physician to give evidence, which the latter did, showing the woman was suffering from syphilis. This ruling has not been received without criticism by the profession. Mr. H. W. Bayly, honorary secretary of the Society for the Prevention of Venereal Disease stated that he felt confident that his committee would agree that physicians should be protected from compulsion to "give away" their patients There would never be an effective use of the clinics now provided unless the patients had complete confidence that their secrets would not be revealed If he found himself in the same position he would refuse to give evidence This would make him liable to imprisonment for contempt of court but it is doubtful whether any judge would press the matter as public sympathy would be against him The *Lancet* also points out the detrimental effect of the ruling on the working of the venereal clinics

The Influenza Epidemic

The most comprehensive account of the great influenza epidemic has been issued as a government report by Dr Carnwith He gives evidence to show that the epidemic originated in China and spread to America and thence to Europe Glasgow in May, 1918 was the seat of the first outbreak among the civilian population In June the disease reached England and the summit of the first wave occurred in the week ending July 13 The early cases were slight the late ones severe This was again seen in the autumn wave the most terrible of all The ports of Portsmouth Southampton and Liverpool which were affected first suffered lightly Inland towns suffered later and more severely The subjoined table gives a comparison of the deaths in London with those in American towns from influenza and pneumonia (all forms) during eight weeks of the epidemic

DEATHS IN LONDON AND IN AMERICAN CITIES

City	No of Death	Rate 8 Weeks per 100 000 of Population
London	13 744	341
New York	20 681	560
Chicago	8 785	343
Philadelphia	12 806	749
Boston	4 211	548

The number of weeks intervening between the highest points of the summer and autumn epidemics were London 15, Liverpool 14, Manchester 20, Stockholm, 9, Copenhagen 12, Chicago, 28 The age incidence showed curious changes During the summer wave the ages most affected were 15 to 45 In the winter wave there was a considerable shifting toward the extremes of life and particularly toward the younger years The susceptibility of young children was the subject of a special inquiry in London Though the attack rate was below the average the chances of recovery were less than in other age groups Of breast-fed infants 30 per cent contracted the disease, of artificially fed 54 per cent The opposite, however occurred in lying-in homes An inquiry in Cheshire revealed that 25 4 per cent of expectant mothers affected died, and of 118 expectant lives only fifty-seven survived It does not appear that one attack was invariably powerful in protecting against others The results are contradictory but may be reconciled by the hypothesis that there are several strains of the influenza virus and that these vary in virulence and antigenic potency On this explanation infection with one strain confers little or no protection against infection with others Each wave seemed to have its peculiar dominant strain producing a certain wave individually

The Fellowship of Medicine

At a meeting of the executive committee of the Fellowship of Medicine and Post-Graduate Association at which Sir Humphrey Rolleston presided a resolution was passed in silence recording the profound sorrow of the association at the loss of their president, Sir William Osler without whose guidance and support success would have been impossible A plan for the establishment of postgraduate courses was submitted by a special subcommittee and approved Three series of courses are contemplated 1 Postgraduate courses for general practitioners A series of courses dealing with the various clinical subjects from the general practitioner's point of view, each lasting a fortnight or more should be arranged by single institutions or by groups of institutions These institutions would be of two kinds (*a*) those such as the existing postgraduate institutions providing postgraduate instruction through the greater part of the year and (*b*) those undergraduate schools which are willing to provide short courses from time to time 2 Postgraduate advanced and special courses Consecutive series of advanced courses each series dealing with one clinical subject from the specialist or advanced point of view should be arranged by educational subcommittees to be elected annually by separate meetings of London teachers including the councils of the corresponding sections of the Royal Society of Medicine 3 Postgraduate students preparing for special examinations Courses for special examinations should be arranged by individual schools as has been done in the past

Increase of Women Physicians

The great increase in the number of women physicians in this country since the war began has been pointed out in previous letters to THE JOURNAL It is now foreseen that by 1925 there will be a very large number for nearly 3 000 woman students are taking up medicine today The Women's School of Medicine is quite full There are many reasons for this First, there was a scarcity of men physicians brought about by the war Then a large number of openings arose owing to the progressive public attitude toward social welfare and child life These appointments will increase from year to year as it is realized what great factors the clinic and the medical inspector are in the educational and industrial worlds The girls who are training to become physicians are mostly from the middle professional class some are the daughters of rich merchants who are determined to be independent and others are from the families of the once leisured class now described as the new poor (people made poor by the rise in the cost of living with no counterbalance)

Criticism of the Insurance Act

Dr Addison minister of health received a deputation from the British Federation of Medical and Allied Societies with regard to the national insurance act Dr Arthur Latham said that the deputation came to emphasize the fact that national health insurance did not permit the insured persons to receive all that the science of medicine had to give and under the regulations the physician was not able to do the effective work he was willing and anxious to do They had the lessons of five years experience during the war of the most gigantic experiment in health services the world ever saw The insured public asked for bread and were given a stone They asked for health and were given regulations which seemed to be chiefly designed to catch the erring physician in some fault The tendency of the regulations was to impair the efficiency of the health services At the end of the war the medical arrangements were far more effective than at the beginning and under the compelling force of great events modern methods were able to push their way through regulations There must be regulations, but if they were not to hamper efficiency they must be elastic None of the lessons of the war had been incorporated in the regulations of the insurance act The deputation suggested a public inquiry into the working of the act

Dr Addison said he was grateful for the efforts of the federation to focus trained medical opinion on the question how the medical services of the country could best serve the public He invited its help in devising a scheme whereby a strongly individualistic profession such as the medical could be brought with good will to devote its services commonly to the public necessity The type of service he was aiming at had been remitted to the consultative council and as soon as he received the report it would be made public Should a wider inquiry be found necessary it could be undertaken

The St Andrews Institute for Clinical Research

On retiring from practice in London Sir James Mackenzie took up his residence in the small Scotch town of St Andrews where he has founded an institute for clinical research of a new type to carry out methods of investigation which he has long advocated He considers that the methods of physiology and bacteriology which have helped some sections of medicine are not applicable by themselves to the wider fields of clinical medicine What is necessary is a much more profound and systematic study of symptoms than has been accomplished in the past Disease is made manifest only by symptoms Therefore the first step is to understand the nature and significance of sy
structural stage of disease when it has
damage has been fairly well st but n
stages before the occurrence al
causes which predispose to d n
ulation of only 10 000 but
as the inhabitants are less
and it is therefore easier t h

object is to study not the rarer forms of disease but the most common Arrangements have been made with the physicians on the insurance panel by which their patients will attend the institute at regular hours Each physician will have at his disposal a separate room and all the facilities of the institute A chemist has been appointed on the staff, and it is intended to appoint a bacteriologist The professors of anatomy and physiology of St Andrews University will give help and also—a peculiar innovation—the assistant professor of logic

Ventilation of Places of Amusement

The Public Health Committee of the London County Council is recommending the enforcement of regulations for the more effectual ventilation of places of amusement, and the exclusion of children, as precautionary measures against the spread of infectious diseases The theaters and music halls committee of the council has already expressed the opinion that the only efficient means of securing satisfactory atmospheric conditions in a place of entertainment and thereby preventing as far as possible the spread of infection is the installation of an adequate system of mechanical ventilation combined with a system of heating under which fresh air is warmed before it enters the building Experience has shown that unless incoming air is warmed, the mechanical ventilation system is not fully utilized, owing to the cold draft caused Such a combined system is required in all new places of entertainment and, as opportunity offers, in existing places A similar policy has been pursued with regard to the provision of means of natural lighting, so that daylight may be freely admitted into halls when not in use for cinematograph displays

PARIS

Jan 22, 1920

A Confederation of French Scientific Societies

In my letter of January 15 (THE JOURNAL, Feb 21, 1920, p 538) I mentioned the circumstances that had led certain societies to form federations The chemical societies were the first to take such action Soon afterward the societies of natural science followed their example, and now a federation of the societies of physical science is about to be organized On the initiative of M Moureu, professor in the Ecole superieure de pharmacie de Paris, and member of the Academy of Medicine and the Academy of Science, a meeting of the representatives of these various federations has been called to discuss the feasibility of forming a general confederation of federated scientific societies About forty scientific societies were represented at this meeting and it was unanimously decided to form such an organization The purpose of this confederation will be to establish intimate relations between the groups of the different branches of pure and applied science, to coordinate their efforts from a scientific technical and economic standpoint, and to further the development of all movements destined to contribute to the progress of pure and applied science, with a view to promoting the economic welfare of the country, and to increasing the general prosperity

Difficulties That Scientific Publications Are Facing

Everything pertaining to printing and publishing is associated with difficulties nowadays First, there is the shortage of paper to contend with, then there is the scarcity of labor the lack of suitable buildings transportation difficulties, the deficiency of coal etc This state of affairs not only retards the publication of scientific journals, but threatens their very existence Some publications whose fine general appearance justifies a considerable increase in price or whose subscription list is growing rapidly can endure all these inconveniences, but with scientific publications it is different, for their patronage is necessarily limited This condition of things is beginning to attract considerable attention in scientific circles and quite recently, M Henneguy, professor in the College de France took the initiative and called a meeting of the managing directors and secretaries of the scientific publications and representatives of the federations of societies of learning Ways and means of remedying the unfavorable conditions were discussed A proposal to establish a cooperative society to handle the printing and publishing of scientific journals was considered, reference being made to the university press idea as carried out in England and America (*Oxford University Press* and many others), but it was thought to be impossible or impracticable to adopt the university press plan in toto although it was admitted that certain commercial features on which it is based may well be imitated Any cooperative plan would have to be based, above all, on a *complete inventory of French scientific publications*, and would necessitate as wide a curtailment as possible This implies, of course, the necessity of raising considerable funds, state aid would have to be secured, private contributions would need to be solicited, and an issue of stock would have to be made In short, as a cooperative society could not be established over night, it was thought best to face the immediate needs of the scientific publications

After this exchange of opinions, in which many men well known in the scientific world took part, M Henneguy moved that a committee be appointed to study into the matter His motion was unanimously adopted Accordingly, the Comite d'etude de la presse scientifique was chosen to investigate the question and to report on these three matters pertaining thereto 1 What plan can be adopted to print and publish works needed for scientific documentation, journals of pure and applied science, and works on pure science, so that they can be sold at a reasonable price authors and writers be paid a just remuneration, and a maximal output be secured? 2 What journals already in existence or about to be founded could be so associated as to make possible eventually the plan of a cooperative printing and publishing house? 3 How may, eventually, French scientific publications be grouped and classified so as to avoid duplication of effort, and favor, on the other hand, the founding of new journals, if such should seem needed?

Medical Science and Aeronautics

The sixth Salon de l'Aeronautique recently held in Paris gave abundant evidence of the progress that medical science as applied to aerial navigation has made during the past six years, since the last Salon de l'Aeronautique was held in 1913 The physiologic section of military aviation was especially interesting It covered six display booths The first booth comprised everything that pertains to the general examination of the would-be aviator, including means of identification, height, weight, musculature, bones and joints The second and third booths were devoted especially to the nervous system and the organs of sense study of the functions involved in walking, the *coordination of movements*, the equilibration apparatus, and the examination of vision and audition In the fourth booth, examinations of the circulation, blood pressure and respiration were conducted The fifth and sixth booths took up roentgenoscopy and the laboratory examination The general impression that one gained at this exhibit was that medical science has made exceedingly important contributions to the progress of aeronautics not only as regards the establishment of the standard which a candidate for the post of pilot must attain to in the medical examination, but also with respect to the limitation of the dangers of aviation in general From the prophylactic point of view, the automatic oxygen inhaler may be mentioned particularly The Garsaux inhaler is so constructed that oxygen to the extent of 35 liters an hour for each passenger is supplied automatically as soon as an altitude of 3 500 meters is reached The amount of oxygen furnished increases gradually, until at an altitude of 8,000 meters, 150 liters an hour are supplied

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Marriages

HENRY BLODGETT McINTYRE, Lieut-Col M C U S Army on duty at Fort McHenry, Md, to Miss Gladys E Miller, at Mamaroneck, N Y, January 31

GEORGE LYLE VENABLE, New Sharon, Iowa, to Miss Georgia Jinks of North Manchester, Ind, in the chapel of St Luke's Hospital Chicago, February 3

MATTHIAS HIGGINS JR, Newport, Ky, to Mdlle Germaine Perillion of St Etienne, France, in New York City, February 7

WILLIAM H MATCHETTE to Miss Nellie Turner, both of Greenville Ohio, at Covington, Ky, Dec 22, 1919

ARTHUR LAWRENCE NIELSON Kansas City, Mo, to Miss Katherine Krug of Washington, D C, January 24

RALPH HENRY DUNNING Syracuse, N Y, to Miss Georgia Malone of Lancaster, Ohio, January 27

THOMAS CONROY ELEY, Plymouth, Ind, to Miss Gertrude Spiegel of Indianapolis, February 18

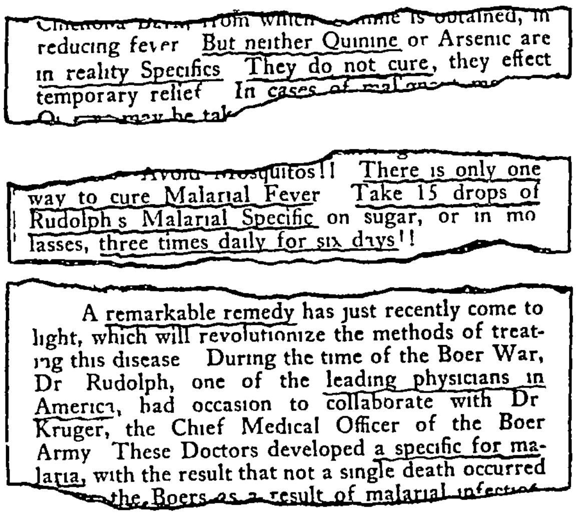
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

ANTIPLASMA

J J Rudolph's Alleged Specific for Malaria

During the last few months THE JOURNAL has received a large number of inquiries from the South relative to a nostrum that is being sold in that part of the country under the name 'Antiplasma' or Rudolph s Malarial Specific" According to the advertising, the preparation was developed by J J Rudolph, M D" who, we are told is 'one of the leading physicians in America" This, while an obvious enough joke to the medical profession, may be taken seriously by the general public and thus contribute duly to the sale of Antiplasma" The story goes that Dr Rudolph during the Boer War collaborated with 'Dr Kruger the Chief Medical Officer of the Boer Army' and that, between them, they 'developed a specific for malaria with the result that not a single death occurred among the Boers as a result of malarial infection"



reducing fever But neither Quinine or Arsenic are in reality Specifics They do not cure, they effect temporary relief In cases of mal

Avoid Mosquitos!! There is only one way to cure Malarial Fever Take 15 drops of Rudolph s Malarial Specific on sugar, or in molasses, three times daily for six days!!

A remarkable remedy has just recently come to light, which will revolutionize the methods of treating this disease During the time of the Boer War, Dr Rudolph, one of the leading physicians in America, had occasion to collaborate with Dr Kruger, the Chief Medical Officer of the Boer Army These Doctors developed a specific for malaria, with the result that not a single death occurred the Boers as a result of malarial infectio

Reproductions (reduced) from the circular which is wrapped around the bottle of Antiplasma

In orthodox 'patent medicine style it is declared that quinin—universally recognized as one of the few specifics in medicine—is not in reality a specific at all

> There is only one way to cure Malarial Fever Take 15 drops of Rudolph s Malarial Specific on sugar or in molasses three times daily for six days
>
> In no instance has a case not yielded to treatment and a complete and lasting cure effected within seven days

This marvel it seems after the close of the Boer War lay dormant for years and has just recently come to light it 'will revolutionize the methods of treating this disease' We are told that for eighteen years past Dr Rudolph has used this compound in his private practice in America and has proved its efficacy beyond question and to the complete satisfaction of a number of reputable scientists" Search of medical literature however fails to show that Dr Rudolph has given the world, medical or otherwise, any information regarding his epoch making discovery Apparently, this 'leading physician" kept to himself the knowledge of his 'specific" for one of the most widespread diseases known until he decided that the time had come to commercialize it

A number of original sealed packages of Antiplasma were turned over by THE JOURNAL'S Propaganda department to the A M A Chemical Laboratory Here is the chemist's report on the product

"'Antiplasma' ('Rudolph's Malarial Specific') is a pale yellow viscid liquid having an odor resembling a mixture of oil of turpentine and oil of wintergreen Its taste is aromatic and bitter, somewhat like the resinous exudates from spruce On heating, the substance burned with a smoky flame leaving only a trace of ash The specific gravity was found to be 0 97924 at 25 C On distillation with steam, Antiplasma gave a volatile fraction and a non-volatile portion, the latter amounting to 52 9 per cent of the weight taken The non-volatile residue was a pale yellow solid which softened to a thick, viscous fluid at 100 C The odor of the warmed substance was pine-like It responded to the usual tests for rosin The distillate appeared to be a mixture of oil of turpentine and methyl salicylate (oil of wintergreen) Quinin and arsenic, two remedies frequently used in the treatment of malaria were absent It was impossible to determine by the analysis whether the product had been made by warming a mixture of rosin, oil of turpentine and methyl salicylate or by thinning' some natural turpentine-like product with methyl salicylate

"A mixture of 53 parts of bleached rosin, 41 parts of oil of turpentine and 6 parts of methyl salicylate would probably have whatever anti-malarial properties Antiplasma possesses"

Correspondence

STATUS OF ARSPHENAMIN PATENTS

To the Editor —In response to requests from a number of physicians concerning the status of the arsphenamin patents, I submit data on the subject in the hope that they will interest the readers of THE JOURNAL

During the recent war, Congress passed a law, known as the 'Trading with the Enemy Act" which, among other things, conferred on the President the authority to license American citizens to operate enemy-owned patents This power was by executive order delegated to the Federal Trade Commission which granted, after due consideration, licenses to certain applicants Licensees under this law were to pay 5 per cent of their gross receipts to the alien property custodian, who was to deposit the same in the United States Treasury Within a year after the declaration of peace, the foreign owners of the patents were given the right to sue in a court of equity for the payment of a reasonable royalty (presumably the said 5 per cent) and also to petition the court for a termination of the license granted

These provisions of the Trading with the Enemy Act have been to a large extent nullified by certain clauses in the treaty of peace, bearing on seized property An amendment to the Trading with the Enemy Act permitted the alien property custodian to regard patents as property and to seize and sell such property as was owned by enemy aliens The alien property custodian thereupon seized the 4 500 German chemical patents in the United States, including those covering drugs dyestuffs and the like These were sold to the Chemical Foundation for $250,000

The purposes of this corporation have been misunderstood in certain quarters The Chemical Foundation is to be conducted *pro bono publico* and its by-laws exclude the possibility of private gain Its object is to protect the struggling dye industries of this country and to stimulate and aid scientific research in industrial and medical chemistry, the profits accruing from the royalties paid to it on patents are, after redemption of the preferred stock, to be utilized in grants for these purposes Its trustees are prominent men of known public spirit and of unimpeachable honor

The title of the Chemical Foundation to the patents appears to be absolute and irrevocable Congress specifically limited any claim on the part of the former foreign owners to the proceeds of the sale and not to a recovery of the patents The peace treaty, in Article 297, validates and confirms the acts of the alien property custodian, and Germany thus acquiesces in the loss of these patents The treaty further provides that the German owners of seized patents cannot seek financial redress from the American licensees, but shall look to the German government which shall indemnify her citizens to the extent of the claims due The German owner of patents granted before the war is no longer entitled to manufacture in the United States, or to import his products into the United States

The arsphenamin patents now being the property of the Chemical Foundation, the German manufacturer cannot export the drug to this country without infringing the patent ownership The laboratories in the United States now manufacturing arsphenamin will enjoy this privilege for the duration of the patent which on this particular drug extends to 1928 Royalties must of course be paid by them to the Chemical Foundation which may, in its judgment license additional laboratories to produce this compound and other similar compounds As to new patents in the future, Germany will be protected as she was in the days before the war The licensing of persons to furnish arsphenamin and neo-arsphenamin throughout the United States was in the beginning carried out by the Federal Trade Commission under regulations formulated by the United States Public Health Laboratories It may be safely asserted that in no country in the world is the distribution of these products so thoroughly controlled and regulated as in the United States Compounds must contain a definite percentage of arsenic within narrow limitations and must pass rigorous toxicity tests in animals In Germany the original product was tested by subcutaneous injections in mice The laboratories referred to above have wisely substituted intravenous injections in rats

Great credit is due to Dr G W McCoy, director of the United States Public Health Laboratories for the manner in which he has organized the scientific supervision over the arsenical products and to Prof Julius Stieglitz of the University of Chicago who has acted as the government s expert on arsphenamin throughout the entire period of the war, and who has made many personal sacrifices in the interests of the country

Jay Frank Schamberg M D, Philadelphia

AMERICANIZATION OF THE MEDICAL PROFESSION

To the Editor —Would not this be a propitious time for the various states to enact laws requiring full citizenship of all physicians etc who may hereafter apply for a license to practice? Educational institutions should be open to all, irrespective of nationality or citizenship but medical societies clubs, and similar organizations might aid considerably in the work of Americanization were they to require citizenship as an essential qualification for membership Honorary memberships could be extended to nonresident foreigners of eminence

William H Holmes M D, Chicago

"A MODIFIED TECHNIC IN OPERATION FOR OBLIQUE INGUINAL HERNIA"

To the Editor —I have read with no little interest Dr Angwin s article (The Journal Feb 14 1920 p 437) on the subject of a modified technic in the operation for oblique inguinal hernia Having served at the Naval Hospital at Great Lakes during Dr Angwin s duty there I had a chance to observe some of his methods of both herniotomy and varicocele operations both of which vary somewhat from the classical One of the main advantages in his technic in herniotomy which is not emphasized in the article is the lessening of traumatism to the cord structures This small factor not only relieves the patient of postoperative distress but also lessens the dangers to the veins and vas in the cord

On the other hand the principle of anchoring the peritoneum to a structure outside the abdomen, however strong does not appear desirable Intra-abdominal structures resemble the caged lion continually moving about seeking a weak place in the cage To anchor the peritoneum at or very near the point of a previous hernia, necessarily leaves a predisposing point for subsequent trouble Closure of the clean peritoneum will, I think give the best results when not securely anchored but allowed to heal as it is normally found free movable and smooth

B V McClanahan, M D., Galesburg Ill

"COMMERCIAL DOMINATION OF BIOLOGIC THERAPEUTICS"

To the Editor —I wish to express appreciation of your editorial on the Effects of Quinin on the Tissues" in The Journal February 14 and to congratulate you on the splendid article on Commercial Domination of Biologic Therapeutics," in Current Comment in the same issue The latter subject is a suitable one for an editorial in which you should place the matter even stronger than you did in this article In fact I think this subject is one that justifies repeated editorials from time to time

C C Bass, M D New Orleans

RESPIRATORY SOUNDS HEARD ON THE HEAD

To the Editor —Apropos of the letter of Dr Myerson in The Journal Feb 14 1920 regarding respiratory sounds heard on the head I should like to call attention to the difference in degree of sound transmission between a healthy and a diseased mastoid Both the respiratory sounds and sound such as that produced by tapping on the central incisors are transmitted better to a bell stethoscope on the diseased side In mastoiditis this fact becomes of diagnostic importance

Arthur C Jacobson M D, Brooklyn

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed Every letter must contain the writer s name and address but these will be omitted on request

PHYSICIANS AND THE PROHIBITION LAW

To the Editor —Please advise me whether or not it will be necessary for me to execute a bond for $1 000 to the federal government in order to get a permit to purchase 6 quarts of whisky to be used in emergency cases that may occur in my regular practice during any one year the whisky to be furnished with no charge whatsoever I have been told that the bond is necessary but I do not so understand from the article on The Physician and the Prohibition Law (The Journal Jan 31 1920 p 342)

G P Zirkle M D Kingston Tenn

Answer —Treasury Decision 2940 issued Nov 6 1919 provided that all persons holding permits to purchase whisky or alcohol must give bond to the minimum amount of $1 000 Internal Revenue Regulations 60 issued late in January 1920 superseded previous regulations and modified this rule by providing as stated in the article mentioned that unless otherwise required by the commissioner bonds need not be filed by physicians dentists or veterinarians This means that except in special cases in which the commissioner may see fit to require a bond physicians do not need to file a bond to secure a permit

VACCINATION WITHOUT SCAR

To the Editor —Please describe the technic of vaccination without scar referred to in The Journal Jan 24 1920 What is the best variety of vaccine to use how is it diluted what is the size of the dose is it given endermically or hypodermically and how far should the needle be introduced? In children should the site of injection be anesthetized with a toothpick dipped in pure phenol

Henry F Hoyt M D Long Beach Calif

Answer.—The subcutaneous method of vaccination was described by J R Goodall (*Am J M Sc* 158 721 [Nov] 1919) who employs the following technic Vacc [illegible] up in capillary tubes is used These [illegible] der [illegible] cohol for a few minutes then dried [illegible] al the ends broken off, and the vaccine blown into a beaker by means of a sterile rubber bulb fixed to the end of the tube From one half to three quarters of a tube of vaccine is allowed for each person and sufficient sterile water is added to make the individual injection 1 c c The arm is sterilized with iodin and the vaccine injected with a fine hypodermic needle and syringe diagonally into the subcutaneous tissues In a few cases in which the injection was made intradermically, the typical reactions of ordinary vaccination developed without complications In the others the local reaction was much like that after antityphoid inoculation and usually set in between the second and fourth days but in a few cases was considerably delayed even for from twelve to fifteen days Everything should be done with surgical cleanliness, and the needle should be changed for each injection Children undergo hypodermic vaccination without any difficulty by this comparatively painless procedure If only one or two persons are to be vaccinated, the vaccine may be prepared as for ordinary hypodermic injection It should be understood that the method is not yet generally accepted

PROCAIN'—BOOKS ON GONORRHEA—SYPHILIS—MALARIA

To the Editor —1 What is the difference between novocain and procain?

2 Which is the least toxic?

3 What percentage of each should be used on all parts of the body with the exception of the gums?

4 What percentage is safe for extraction of teeth?

5 What is the maximum amount in grains or fractions that is safe for use in one operation?

6 Please refer me to a good book on (*a*) the treatment of syphilis of all types (*b*) the treatment of gonorrhea and its sequelae (*c*) malaria and its treatment

I note what THE JOURNAL has to say about apothesine I am glad that there is such a publication to speak out boldly against all pretenses

W B PALMER M D Furman Ala

ANSWER—1 None The term procain' was adopted by the Federal Trade Commission and the Council on Pharmacy and Chemistry for use in place of novocain which is the trade name for this product used by a single firm 'Procaine" is the term used by the American firms which have been licensed by the Federal Trade Commission to manufacture the drug

2 See Answer 1

3 According to New and Nonofficial Remedies for infiltration anesthesia, solutions of 0.25 gm (4 grains) of procain in 100 or 50 c c (3 2 or 1 6 ounces) of physiologic sodium chlorid solution with 0 3 or 0 6 c c (5 or 10 minims) of epinephrin solution (1 1,000), for instillations and injections, solutions of 0 1 gm (1½ grains) procain in 10 or 5 c c (16 or 8 minims) physiologic sodium chlorid solution (1 1 000), in ophthalmology 1 to 5 to 10 per cent solution, in rhinolaryngology 5 to 20 per cent solutions are recommended with the addition of 0 4 to 0 5 c c (6 to 8 minims) of epinephrin solution (1 1,000) to each cubic centimeter (16 minims)

4 See Answer 3

5 Internally owing to its feeble toxicity, it may be given in doses up to 8 grains It might therefore be said that this is the maximum amount to be used in any operation

6 (*a*) Thompson Loyd Syphilis Philadelphia Lea & Febiger 1916 $4 25
White and Martin s Genito Urinary Surgery and Venereal Diseases Ed 10 Philadelphia J P Lippincott Company 1917
Hayden J R Venereal Diseases Philadelphia Lea & Febiger 1916
Manual of Treatment of the Venereal Diseases published by the American Medical Association price 25 cents

(*b*) Lumb N P L The Systematic Treatment of Gonorrhea Philadelphia Lea & Febiger 1918
Luys Georges A Text Book on Gonorrhea and Its Treatment translated from the French by Arthur Foerster New York William Wood & Co 1913 $6

(*c*) Craig C F The Malarial Fevers New York William Wood & Co 1909
Deaderick W H A Practical Study of Malaria Philadelphia W B Saunders Company 1909 $4 50

TSCHERNING

To the Editor —I notice in Queries and Minor Notes (THE JOURNAL Sept 20 1919 p 930) an inquiry for biographic data concerning Dr H E. Tscherning

Dr Tscherning is at present and has been for the last few years professor of ophthalmology in the University of Copenhagen, and chief of the department of eye diseases in Copenhagen

S N VENDEL M D Bronderslev Denmark

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska Juneau Mar 2 Sec Dr L O Sloan Juneau

Arizona Phoenix April 6 7 Sec Dr Ancil Martin 207 Goodrich Bldg Phoenix

Colorado Denver April 6 Sec Dr David A Strickler 612 Empire Bldg Denver

Connecticut New Haven and Hartford March 9 10 Sec Reg Bd Dr Robert L Rowley Hartford Sec Homeo Bd. Dr Edwin C M Hall 82 Grand Ave New Haven Sec Eclectic Bd Dr James Edwin Hair 730 State St Bridgeport

District of Columbia Washington April 13 15 Sec Dr Edgar I Copeland the Rockingham Washington

Florida Jacksonville March 16 Sec Homeo Bd Dr Geo A Davis East Port

Idaho Boise April 6 Commissioner Hon Robert A Jones Boise

Illinois Chicago Mar 1 3 Director, Mr Francis W Shepardson Springfield

Iowa Iowa City March 29 31 Sec Dr Guilford H Sumner Capitol Building Des Moines

Maine Portland March 9 10 Sec Dr Frank W Searle 140 Pine St Portland

Massachusetts Boston March 9 11 Sec Dr Walter P Bowers Room 144, State House Boston

Minnesota Minneapolis April 6 8 Sec Dr Thos McDavitt Loury Bldg St Paul

Montana Helena April 6 Sec Dr S A Cooney Power Bldg Helena

New Hampshire Concord March 11 12 Sec Dr Charles Duncan Concord

Oklahoma Oklahoma City April 13 14 Sec Dr J M Byrum Shawnee.

Rhode Island Providence April 1 2 Sec Dr Byron U Richards State House Providence

West Virginia Charleston April 13 Sec Dr S L Jepson Masonic Bldg Charleston

Washington July Examination

Dr C N Suttner, secretary of the Washington Board of Medical Examiners, reports the written examination held at Seattle July 1-4 1919 The examination covered 13 subjects and included 143 questions An average of 60 per cent in each subject was required to pass Of the 35 candidates who took the physician's and surgeon's examination 34 including 2 osteopaths passed and 1 failed The following colleges were represented

College	Year Grad	Number Licensed
PASSED		
College of Medical Evangelists	(1917)	1
George Washington University	(1912)	1
Bennett College of Eclectic Medicine and Surgery	(1897)	1
College of Phys and Surgs Chicago	(1903) (1910)	2
Loyola University	(1919)	1
Rush Medical College	(1878)	1
Baltimore Medical College	(1891)	1
Johns Hopkins University	(1913)	1
Harvard University	(1915)	1
Barnes Medical College	(1911)	1
Kansas City Medical College	(1901)	1
Kansas City University of Phys and Surgs	(1919 2)	2
John A Creighton Medical College	(1919)	1
Ohio Miami Medical College	(1911)	1
University of Oregon	(1914) (1918) (1919)	3
Jefferson Medical College	(1918) (1919 3)	4
University of Pennsylvania	(1892) (1916) (1918 3)	5
Meharry Medical College	(1915)	1
McGill University	(1891) (1905)	2
Chiba Special Medical School	(1917)*	1
FAILED		
University of Louisville	(1912)	1

* Graduation not verified

District of Columbia October Examination

Dr Edgar P Copeland secretary of the District of Columbia Board of Medical Supervisors reports the oral and written examination held at Washington Oct 14-16 1919 The examination covered 16 subjects and included 80 questions An average of 75 per cent was required to pass Of the 23 candidates examined 21 passed and 2 failed Eight candidates were licensed by reciprocity The following colleges were represented

College	Year Grad	Per Cent
PASSED		
G[illegible]n University	(1919)	83 7 84 5 86 6 87 1 87 5 87 6
George Washington University	(1917) (1919)	75 8 83 6 84 7 82 8 86
Howard University	(1918) (1919)	76 3 79 1
Johns Hopkins University	(1913) (1918)	86 5 85 6
University of Maryland	(1917)	76 6
Harvard University	(1919)	88 2
Columbia University	(1914)	87 6

Cornell University	(1917)	91.1
Med. Coll. of the State of South Carolina	(1917)	77.2
Dalhousie University	(1916)	85
FAILED		
Coll. of Med. and Surg. (Physio Medical) Chicago	(1911)	58.6
Columbus Medical College	(1884)	66.2

LICENSED BY RECIPROCITY

College	Year Grad	Reciprocity with
George Washington University	(1904)	Maryland
Baltimore Medical College	(1906)	Maryland
Tufts College Medical School	(1905)	Maine
Ensworth Medical College	(1912)	Missouri
University of Nebraska	(1904)	Nebraska
Temple University	(1913)	Penna
Medical College of Virginia	(1916)	Virginia
University of Aberdeen	(1901)	Virginia

Medicolegal

Sufficiency of Evidence of Typhoid Fever from Drinking Contaminated Water

(Stubbs v. City of Rochester (N. Y.), 124 N. E. R. 137)

The Court of Appeals of New York says that this action was brought by the plaintiff to recover damages alleged to have been sustained by him as the result of drinking contaminated water from the defendant's domestic service, in 1910. The trial resulted in a judgment for the defendant, which was affirmed by the appellate division of the supreme court, but that is here reversed and a new trial granted, by this court, divided four to three. The important question in the case was, Did the plaintiff produce evidence from which inference might reasonably be drawn that the cause of illness was due to the use of contaminated water furnished by the defendant? Counsel for the defendant argued that, even assuming that the city might be held liable to the plaintiff for damages caused by its negligence in furnishing contaminated water for drinking purposes (*a*) The evidence adduced by the plaintiff failed to disclose that he contracted typhoid fever by drinking contaminated water; (*b*) it was incumbent on him to establish that his illness was not due to any other cause to which typhoid fever might be attributed for which the defendant was not liable. Counsel asserted that there was a failure of proof on the part of the plaintiff, in that he did not establish that he contracted disease by drinking contaminated water and in support of his argument cited a rule of law that when there are several possible causes of injury for one or more of which a defendant is not responsible, the plaintiff cannot recover without proving that the injury was sustained wholly or in part by a cause for which the defendant was responsible. If the argument should prevail, and the rule of law stated is not subject to any limitation, this case would illustrate the impossibility of a recovery in any case based on like facts.

One cause of typhoid fever was stated to be "personal contact with typhoid carriers or other persons suffering with the disease, whereby bacilli are received and accidentally transferred by the hands or some other portion of the person or clothes to the mouth." Concededly a person is affected with typhoid some weeks before the disease develops. The plaintiff here resided three miles from his place of employment, and traveled to and from his work on the street car. To prove the time when he was attacked with typhoid, then find every individual who traveled on the same car with him, and establish by each [illegible] of them that he or she was free from the disease even to his or her clothing would be impossible. Again the evidence disclosed that typhoid fever is caused by sources unknown to medical science. If the word of the rule stated were to prevail the plaintiff would be required to eliminate sources which have not yet been determined or ascertained. This court does not believe the rule stated to be as inflexible as claimed for it. If two or more possible causes exist, for only one of which a defendant may be liable, and a party injured establishes facts from which it can be said with reasonable certainty that the direct cause of the injury was the one for which the defendant was liable the party has complied with the spirit of the rule.

The plaintiff was employed in the immediate locality where the water was contaminated. He drank the water daily. The consumption of contaminated water is a very frequent cause of typhoid fever. In the locality there were a large number of cases of typhoid fever and near to sixty persons who drank the water and had suffered from typhoid fever in that neighborhood appeared as witnesses on behalf of the plaintiff. The plaintiff gave evidence of his habits, his home surroundings and his method of living, and the medical testimony indicated that his illness was caused by drinking contaminated water. Without reiteration of the facts disclosed on the trial the court does not believe that the case on the part of the plaintiff was so lacking in proof as matter of law that his complaint should be dismissed. On the contrary, the most favorable inferences deducible from the evidence for the plaintiff were such as would justify a submission of the facts to a jury as to the reasonable inferences to be drawn therefrom and a verdict rendered thereon for either party would rest, not in conjecture, but on reasonable possibilities.

Unconstitutional Exemption Law Relative to Physicians' Bill

(O'Leary v. Croghan (S. D.), 173 N. W. R. 844)

The Supreme Court of South Dakota, without explaining the special nature of this case, says that the only question presented for determination on this appeal was the constitutionality of Chapter 150, Laws of 1911, which reads:

> Nothing in this chapter shall be so construed as to exempt any personal property from mesne or final process for laborers' or mechanics' wages or physicians' bills or for the necessaries of life including only food, clothing and fuel provided for the debtor or his family except property absolutely exempt. . . . Provided, that in case of physicians' bills or for necessaries of life there shall also be exempt household and kitchen furniture including stoves of the debtor to an amount in value not exceeding $400, and also two cows; provided, however, that the collection of physicians' bills shall not be enforced by legal process in less than six months from the accruing thereof except when the debtor is about to remove from the state.

Stated somewhat differently, under the provisions of this chapter, the amount of a debtor's exemptions depends on the nature of his debts. As against certain classes of claims he may not be allowed any exemptions at all except such as are denominated as absolute exemptions, while as against other claims he may be allowed additional exemptions to the extent of $750 worth of personal property, as provided by Section 2659, or the alternative exemptions enumerated in Section 2660 of the code. A corresponding discrimination is made as between different classes of creditors. A laborer or mechanic may satisfy his claim for wages out of any property of the debtor, except that made absolutely exempt, and may have immediate execution. A physician and one who has supplied the debtor with the necessaries of life must leave the debtor $400 worth of household and kitchen furniture, including stoves and also two cows, in addition to his absolute exemptions, and the creditor who furnished the necessaries of life may have immediate execution, but a physician cannot have execution until six months after accruing of his claim.

None of these discriminations are authorized by Section 4 of Article 21 of the state constitution, which provides that:

> The right of the debtor to enjoy the comforts and necessaries of life shall be recognized by wholesome laws exempting from forced sale a homestead [illegible] and a reasonable amount of personal property, the kind and value of which shall be fixed by general law.

On the contrary, such discriminations are expressly prohibited by the provisions of Section 18, Article 6, that no law shall be passed granting to any citizen, class of citizens or corporation, privileges or immunities which, upon the same terms, shall not equally belong to all citizens or corporations. The discriminations [illegible] the legislature may [illegible] large [illegible] the constitution has been [illegible] legislature is without authority to make them. The court is [illegible] fied that in enacting Chapter 150, Laws of 1911, the legislature exceeded its constitutional power and [illegible] is void.

Society Proceedings

COMING MEETINGS

American Medical Association New Orleans April 26 30

Alabama State Medical Association, Anniston April 20 22
American Association of Anatomists, Washington D C April 1 3
American Assn of Pathologists and Bacteriologists New York April 2 3
American Dermatological Association Asheville April 22 24
American Proctologic Society Memphis Tenn April 22 23
American Urological Association New York March 23 25
Assn of Military Surgeons of the U S, New Orleans April 24
Louisiana State Medical Society New Orleans April 24 26
Missouri State Medical Association, Jefferson City April 6 8
National Tuberculosis Association St Louis Mo April 22 24
New York State Medical Society, New York March 23 25
North Carolina State Medical Society Charlotte April 20
South Carolina Medical Association Greenville April 20 21
Tennessee State Medical Association Chattanooga April 6 8
Texas State Medical Association Houston April 22 24

THE CHICAGO SOCIETY OF INTERNAL MEDICINE

Thirty First Regular Meeting Held Feb 23 1920

The President, Dr Joseph A Capps, in the Chair

The Bacteriology of Epidemic Influenza

Drs James C Small and **Fred Stangl** *Bacillus influenzae* was found in 100 per cent of our cases studied in our first series, pneumococcus Type I, none, Type II, one, Type II atypical, five, Type III, one, Type IV, nine, total positive for pneumococcus sixteen, or 72 7 per cent Hemolytic streptococci were found in two instances, or 9 1 per cent

A second group comprises forty-five cases of acute influenza which were studied by the throat and sputum cultures only These cultures were made on brown blood agar, and no attempt was made to identify organisms other than *B influenzae* This organism was obtained in forty-three of these cases or 95 5 per cent Six of this number had throat cultures only The two cases negative for *B influenzae* were in this group of six

Among thirty controls, *B influenzae* was demonstrated twenty-one times or 70 per cent The relative high incidence of *B influenzae* in this group is comparable to the findings during the pandemic of 1918 and may be regarded as illustrating the wide dissemination of these organisms during epidemic periods

In a second series, twenty-six patients in the tuberculosis hospital were studied These patients were hospitalized before the epidemic *B influenzae* was found in nine instances, or 34 6 per cent The findings in this group may be regarded as comparable to the incidence of *B influenzae* during interepidemic times

A group of thirty-two cases studied presents the bacteriology of the pneumonia of influenza as it occurred among cases chosen at intervals throughout the course of the epidemic The results of this study have been Pneumococcus Type I two Type II, one Type II atypical six Type III, five, Type IV thirteen, total, twenty-seven or 84 4 per cent Hemolytic streptococci with pneumococci one instance, with no pneumococci five, total six, or 18 7 per cent *B influenzae*, twenty-four instances or 75 per cent

Those types of pneumococci occurring in the mouths of normal persons were found in practically 90 per cent of the pneumococcus pneumonia of this group The parasitic types I and II occurred infrequently Type I only twice and Type II once These findings are in accord with those reported for the pneumonia of 1918 The hemolytic streptococcus occurred in approximately a fifth of the cases It should be emphasized that in cases studied early in the epidemic this organism was not found All instances in this group in which hemolytic streptococci were found appeared among the cases studied within the latter half of the period

Ward surveys for hemolytic streptococci were made on three occasions at about ten-day intervals in several of the wards These surveys were instituted to determine the hemolytic streptococcus situation in the wards rather than to follow the bacteriology of individual patients The sheet cubicle system and a definite plan for preventing contact infections within these wards was practiced

One of the wards had a high incidence of hemolytic streptococci at the time of the first survey Isolation of patients carrying hemolytic streptococci did not prevent its further dissemination within this ward, and on the third survey twelve of twenty-two patients or 54 4 per cent had hemolytic streptococci in their throats Four empyemas (all due to hemolytic streptococci) developed in this ward Some cases of otitis media and one case of frontal sinusitis also developed in this ward The bacteriology of these was not determined

The other ward had an incidence of hemolytic streptococcus carriers of 16 7 per cent on the first survey Ten days later on the second survey it had only 3 3 per cent On a third survey only four patients remained in this ward and two of these were positive Two empyemas appeared in this ward neither due to the hemolytic streptococcus Several cases of otitis developed here also, of undetermined bacteriology

These studies are too incomplete to enable one to draw conclusions but it is a striking circumstance that in the ward in which hemolytic streptococci were most prevalent only hemolytic streptococcus empyemas developed, while in *the other ward, no hemolytic streptococcus empyemas* developed

Observations on Green-Producing Cocci of Influenza

Dr Ruth Tunnicliff During the recent influenza epidemic the majority of observers have isolated green-producing diplococci from the sputum and from material obtained at necropsy The organisms were generally classed as Type IV pneumococci on account of their being soluble in bile and not agglutinated by pneumococcus serums Pneumococci of Types II III and more rarely I were isolated also *Streptococcus viridans* and nonhemolytic streptococci were isolated by Keegan Nuzum, Blanton and Irons and others, but the colonies were not described, so that it is not possible to identify them with the other strains of streptococci Other workers, notably Mathers MacDonald Rosenow Howel, Anderson and Jordan isolated a peculiar green-producing streptococcus from the nasopharynx sputum, blood and necropsy material This streptococcus was isolated by the late Capt George Mathers at Camp Meade at the very onset of the epidemic at the camp and during the first and second days of the disease He isolated this streptococcus from the sputum in 87 per cent of the 110 cases of influenza and the complicating bronchopneumonias The Pfeiffer bacillus was isolated also in 58 per cent of these cultures The coccus was cultivated from necropsy material in the six cases examined, the Pfeiffer bacillus from five

I made immunity experiments with the Mathers coccus to determine its relation to influenza and the complicating pneumonia The serum was examined for opsonins, as this antibody is usually easily demonstrated in streptococcus infections The serum of patients with acute influenza was examined daily for its opsonic power On the first day of the disease the opsonic content was low On the second or third day it rose well above normal, remaining high a day or two

Severe cases of bronchopneumonia following influenza were also examined The serum showed little or no opsonins for the Mathers coccus The negative phase in these influenzal pneumonias for this green-producing streptococcus is much more pronounced than is generally observed in other acute infectious diseases The serum of the patients that recovered showed as the symptoms subsided, a high opsonic content

These changes in opsonins in influenza and influenzal pneumonia were specific for the Mathers coccus no fluctuations being observed with the Pfeiffer bacillus, *B influenzae* *Micrococcus catarrhalis* or *Streptococcus hemolyticus* Agglutination experiments with this streptococcus were negative

It does not seem possible to determine definitely the etiologic relation of the Mathers coccus to influenza and its complications At Camp Meade Md, it was the prevailing organism during the onset and height of the epidemic It was the micro-organism which appeared with the onset of influenza, Pfeiffer's bacillus having been present in the respiratory diseases for several weeks previous In Chicago, Dr Jordan found this coccus present in a few more cases than the Pfeiffer bacillus When present the coccus was always found in the early stages of the attack and was more closely associated with the pneumonia cases than the Pfeiffer bacillus However, Dr Jordan found the Mathers coccus present in colds and tonsillitis infections in about the same proportion of cases as influenza, while the Pfeiffer bacillus was here found less frequently

My experiments, and later those of Rosenow Howell and Anderson, show that the serum of convalescent influenza and influenzal pneumonia patients shows definite specific opsonins, agglutinins and complement fixation bodies for the Mathers coccus, which indicates that it played at least some part in the reaction in the epidemic and was of wider distribution than has been commonly recognized

Evidence for and Against the Use of Vaccines in the Treatment of Influenza With and Without Pneumonia

Dr Ernest E Irons Before a remedy whether prophylactic or curative is recommended for general use, its powers and limitations should be well determined (1) It should be of itself harmless and should be of proved value, (2) if not altogether harmless, its value should be such that the advantages far outweigh the risk involved in its use, (3) if harmless of itself it may still be dangerous in that it gives a false sense of security and thereby prevents the institution of other more effective measures of prevention or cure A common example of the latter type is the fumigating of a house while the resident a carrier of the disease, goes at large In estimating the value of vaccines in the prevention and cure of respiratory disease, several factors are commonly neglected

1 Controls No one today would accept a report on a Wassermann test unless he were assured that in making it, all necessary controls were used In estimating the value of vaccines in groups of patients inoculated with them, it is not sufficient to base conclusions on impressions Statistics, to be available for safe conclusions should be based on large series of cases with like numbers of controls under identical conditions This has not usually been the case in reports available in the literature and when these are carefully examined the fallacy in the argument is usually recognizable

2 Results of Animal Experiments Animal experimentation while fundamental and a necessary preliminary in biologic investigation does not afford the final proof of value of a remedy for man Because an immune serum for example contains demonstrable antibodies and will protect a mouse from fatal infection in a dose of 5 c c it does not follow that this serum will be effective in man in the same or even fivefold dose In the same way because the injection of a relatively large quantity of bacteria into animals produces demonstrable antibodies it does not follow that the injection into man of an allowable amount of the same bacteria will afford protection against the corresponding organisms, nor is the amount of demonstrable response the same for all organisms Even in the often quoted example of typhoid vaccination the immunity is only relative and though usually sufficient fails when large numbers of bacilli are ingested

During the recent periods of influenza epidemics it has been proposed to prevent influenza by the inoculation of vaccines containing streptococci pneumococci and the Pfeiffer bacillus and this method has been widely practiced The amount of vaccines used in this way is enormous—usually under circumstances which preclude the drawing of any scientific conclusions from results obtained In the first place, the evidence that the Pfeiffer bacillus is the cause of influenza is extremely weak It is true that in recent weeks it has been found quite constantly in respiratory infections in Chicago This prevalence was noted last year in some localities in the East, and in still other Eastern communities the same workers using the same methods were unable to find this bacillus The Pfeiffer bacillus has also been found for years in diseases which have nothing to do with influenza and at times when clinical influenza was not present It is evident that the Pfeiffer bacilli in the vaccine cannot therefore, be expected to contribute anything specific to the supposed protection from influenza

The question then may be asked whether on clinical grounds any protection is afforded Among the few adequately controlled reports available is that of McCoy who inoculated a portion of the inmates of an institution and subsequently found an incidence of influenza among them equal to that in a like number of uninoculated controls

If vaccines as used failed to protect against influenza, did they protect against the later pneumonia? The organisms of the secondary pneumonias varied greatly in different parts of the country and in the same community at different periods of the epidemic and so a vaccine prepared for use in one community might not have any specific relation to the prevalent type in another To argue the importance of some unknown nonspecific elements in vaccines and other proteins in the treatment of disease is to cast aside one of the most important guides in the study of immunity So far as I have been able to find there is no conclusive evidence that previous vaccination had any effect on the incidence of pneumonia following influenza

Of the other factors that had an enormous effect on the incidence of pneumonia early hospitalization was the most important in the army and in civil practice Patients already in hospital such as those in surgical wards frequently contracted influenza but rarely pneumonia Nurses who remained on duty after the onset of influenza developed pneumonia in twice as many cases as did nurses who went to bed at the first symptoms

As has been the practice in recent years a variety of substances such as peptones vaccines liquor formaldehyde and mercurial salts were injected intravenously in patients suffering from pneumonia usually without any attempt at comparison with control cases Some of the discussions of events following the injections would be amusing if it were not for the serious import to the patients When in an occasional case the chill and thready pulse resulting from the administration of the vaccine is followed by a permanent defervescence the event is described with as much detail as if sudden defervescence were not of almost daily occurrence in other groups of pneumonias not under such treatment The effect of these administrations in hastening the fatal issue is not usually discussed

In view of the very doubtful efficacy of vaccines in prophylaxis of influenza and its subsequent pneumonia it is believed that further popularization of this method of control of influenza is undesirable The use of vaccines and other proteins intravenously is dangerous as well as being of extremely doubtful value

DISCUSSION

Dr E O Jordan My own work in regard to influenza is incomplete and my opinions are somewhat unformed at the present time As regards the Pfeiffer bacillus we made some observations both in the 1918 epidemic and in the epidemic just passing I got the impression in 1918 that there was undoubtedly a good deal of variation in the frequency of the finding of the Pfeiffer bacillus according to the group that was examined

We had several groups under observation in our laboratory work and we found a good deal of difference both in the frequency of occurrence of the Pfeiffer bacillus in individual cases and as regards actual numbers of Pfeiffer bacilli in different cases That observation has been confirmed by our findings in the present epidemic The frequency of occurrence of the Pfeiffer bacillus in cases of
tory infection is by no means very convinci
this organism plays in the primary infect

being very much impressed by the work done by Park's laboratory on the lack of unity in the different strains. In one case, for instance, he describes his findings with six strains isolated from six members of one family, all coming down with typical influenza at about the same time, and these six strains from six different members of the family were all different immunologically. The serum of one strain would not agglutinate any of the others. This observation has been confirmed independently by Fleming in England and those who have worked with the agglutinated serums have found considerable diversity in the reactions obtained.

There are different kinds of Pfeiffer-like organisms in the throat, both in normal persons and in different kinds of respiratory infection, and it may be that we shall have to sort out the different kind of bacteria. I do not believe the criteria usually employed for the identification of the Pfeiffer bacillus are sufficient to permit us to place these organisms in one group. We have certainly different kinds of organisms that have gone under the name of Pfeiffer bacilli, and it will take some time to sort them out.

In the last twenty-five years quite a number of cases have been put on record of meningitis in which the Pfeiffer bacillus has been found in pure culture and these cases have been regarded as due to this bacillus. If the Pfeiffer bacillus was the cause of meningitis in the 1918 epidemic we might suppose there would be in all events some increase in the number of cases of meningitis due to the Pfeiffer bacillus, but there has not been anything of that sort. Again attempts made to produce influenza in human beings with injections of pure cultures of Pfeiffer bacillus have been unsuccessful in the vast majority of cases.

A word about the very interesting organism Dr. Tunnicliff has described. In the 1918 epidemic we found the Mathers organism which had an extraordinary degree of virulence. It killed mice and sometimes guinea-pigs more rapidly than any other bacteria I ever got out of the respiratory tract. We have been examining the flora of ordinary colds and have not found the Mathers cocci in these cases, so when the first case of influenza appeared last month we looked with great interest to see whether the Mathers coccus was present, and much to my surprise we did not find it. We have not found Mathers' cocci in anything like the number we did in 1918.

With reference to vaccination or vaccines in connection with the commission, financed by the Metropolitan Life Insurance Company on respiratory diseases, of which I am a member, some observations and experiments are being carried on at the present time with a mixed vaccine, and it is hoped that before long we shall be able to give you the results of the work of this commission.

DR. DAVID J. DAVIS: The work that has been going on in the last year or two emphasizes the fact that the hemophilic organisms and the so-called influenzal bacillus are very widely distributed. In normal individuals the percentage varies anywhere from 10 to 40 or 50 per cent., which means that one person out of every three, four or five normally harbors these bacteria, and this percentage persists in epidemic times as well as in interepidemic times, as shown by the work of Lord and a number of other investigators. This organism is more widely distributed and more frequently the cause in all sorts of respiratory diseases both acute and chronic than any other. We have known for a long time that the bacillus occurred in practically 100 per cent. of whooping cough cases and these organisms are not more dangerous although they are distinctly different. It occurs commonly in measles cases, in various kinds of pneumonias, in meningitis cases, meningococcic infections, and in bronchiectases, pulmonary tuberculosis, and so on; consequently the mere fact of the occurrence of the organism in a high percentage of cases, taken by itself, is not a criterion of any great value in considering it as an organism of etiologic importance in connection with this disease or any other disease. Pfeiffer, for instance, nearly forty years ago found the organism known by his name in practically 100 per cent. of cases, yet in the last year or two in Germany they have had great difficulty in finding the organism in a small number of cases. Pfeiffer's early work was supported generally by German investigators, yet in the 1918 epidemic generally speaking these German investigators had not been able to find the organism and had generally taken a stand against it as the cause of influenza.

As to the presence of hemolytic streptococci in the throat, I should like to call attention to the point that an error may creep in in making cultures from throats. Hemolytic streptococci are virtually constant in all throats in which tonsils are present. They can be found deep in crypts of the tonsils, and unless this fact is considered reports of throat cultures in which hemolytic streptococci are found may be misinterpreted. These organisms are developing in the crypts from time to time and are passing out into the throat. They are quite virulent for animals, and they are obtained from empyema cases or from the blood in fatal cases.

DR. A. M. MOODY: I had occasion to examine material from many cases of influenza in France during the epidemic of 1918. The first cases occurred the latter part of August, 1918. It was impossible to differentiate those cases clinically from the cases we saw later. We made a bacteriologic examination of the material from the lungs, trachea, bronchi and sputum and in nearly every case we found hemolytic streptococci in pure culture. About the middle of September the bacteriologic findings seemed to change and we began to find more influenza bacilli and green-producing streptococci similar to the organism described by Dr. Tunnicliff. In the first part of October we began to get patients from the states. During the epidemic we found more and more influenza bacilli. In November we found a mixture of all sorts of organisms, particularly influenza bacilli, and streptococci in the fatal cases. In the fatal cases we found large numbers of streptococci in the alveoli, so that none of these organisms can be put down as the cause of the disease. I do not believe we are any nearer the solution of the cause of the disease today than we were quite a while ago.

DR. JOSEPH A. CAPPS: In visiting the different base hospitals in France it was interesting to see the difference of opinion among bacteriologists as to the different organisms they found. In a group of hospitals having the same type of cases clinically one bacteriologist would find influenza bacilli, another pneumococci and another streptococci. There were many places in which influenza bacilli were not found and it was thought by some of the chief surgeons that the bacteriologists did not know how to find them, yet many of these bacteriologists were experts and the reason they did not find influenza bacilli more frequently was that they were not there.

Does one attack of influenza confer immunity? I have seen several cases recently which lead me to believe that it does not. One patient in particular had leukopenia, respiratory symptoms, great prostration, and other symptoms associated with influenza and recovered. This patient went to Florida and again developed a fresh attack. Another patient, after having recovered from the primary attack of influenza, went to California and several weeks after the first attack had a second one. I presume that one can say this was a recurrence or perhaps a relapse, such as we have in typhoid fever cases.

DR. THEODORE TIEKEN: I have a strong conviction that vaccines are absolutely useless. I find that practitioners are using them for both prophylactic and curative purposes. They are using two or three different varieties of vaccines in the same cases so as to have what they call a polyvalent vaccine. In a town in an adjoining state I found one practitioner who was using Sherman's, Parke, Davis & Company's and Mulford's vaccines in the same case. When this patient developed pneumonia he switched to No. 38 or to No. 36. By the time I got there the patient developed marked tympanites and diarrhea, so that the practitioner had a colon vaccine ready to use. This is merely an example of what is going on and as showing the indiscriminate use of vaccines.

DR. ELLIS KIRK KERR: In connection with immunity, we were struck by the epidemic Sept. 20, 1918, which ran for about six weeks. During that time we had about 6,000 cases of influenza in our camp of 35 000 or 40 000 men About two days before the armistice, a troop movement started from the rural districts in Minnesota The men were collected in Minneapolis and sent to Chattanooga The men who were attacked with influenza were dropped off the train at different places They had the same type of influenza that was prevailing in the camps While the original epidemic was on, the ward attendants, nurses and physicians were coming down with the disease in the same proportion as the men in the camps When this batch of men came in from Minnesota there was practically no extension of the disease This group was isolated in camp, and the very ill patients were sent to the hospital but there was practically no spread in the hospital from this group of cases It would seem as if the disease had gone through the camp and picked out all the susceptible men

DR BERNARD FANTUS Last year I had quite a number of patients who, two or three months after the primary attack, developed another attack In the meantime they had been entirely well I have had a few patients that have developed a third attack about two months after the second attack I think all practitioners have noticed the fact that in this year's epidemic many individuals were taken sick who were sick with influenza last year Again some patients who had severe attacks last year have had mild attacks this year, and vice versa

So far as the vaccine treatment is concerned vaccines cannot be of great value because we do not know what particular organisms are concerned in the causation of the disease

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Miscellany

PROCESS OF CANNING RIPE OLIVES

Because of the number of cases of botulism lately reported after the eating of canned ripe olives, there is naturally some speculation as to the processes involved in preserving this fruit From a recent summary (*Am Food J* **15** 26 [Feb] 1920) it is learned that while practices vary slightly certain procedures have been generally adopted by olive packers The fruit is permitted to ripen on the trees, care being exercised to start picking before the olives are overripe After the olives have been gathered by hand they are transported to the packing plant, there first to be sorted by sizes then put through repeated washings and conditionings for variable periods depending on the quality and condition of the fruit the seasonal temperature and the technical details in vogue at the particular plant In some plants the olives are kept in agitation during these procedures by means of the ordinary hand paddle, while compressed air jets serve the same purpose under more modern practices The olives are first immersed in clear water in cement or wooden vats for two or three weeks, in order to prepare the skins for the subsequent steps in the process They are then subjected for from eight to twelve hours to the action of a solution of caustic soda, 2½ ounces to the gallon of water After exposure to the air until their coloring is uniform the olives are again immersed in a solution of caustic soda 1¼ ounce to the gallon of water, for a period of from eight to twelve hours The second caustic treatment is to abstract the bitter properties of the fruit and is followed by washing in clear water until all traces of the lye have been removed The olives are next immersed for one or two days in a brine solution testing 9 or 10 points on the salometer, after which they are deposited in bins in the canning room Women operators then pack them in cans, rejecting at this time all imperfect or soft fruit The cans are filled with brine testing about 12 points on the salometer at a temperature of 175 180 F and are subjected to an exhaust process of 185 F before sealing The fruit is next cooked at 224 F for from twelve to thirty minutes depending on the size of the containers and is permitted to cool naturally No effort is made by any of the canners to control accurately the temperature of the solutions in the various processes

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Anatomy, Philadelphia

Jan 15 1920 **26** No 3

Origin Growth and Fate of Osteoclasts and their Relation to Bone Resorption L A Arey Chicago —p 315
Glandular Cells of Frogs Pancreas S Saguchi Kanazawa Japan —p 347
Course of Wolffian Tubules in Mammalian Embryos F T Lewis Boston —p 423
*Histologic Study of Spleen of Rabbit Under Heightened Phagocytic Activity W H F Addison Philadelphia —p 437

Nature of Osteoclasts —The observations recorded by Arey were made on developing membrane bone of human and pig embryos He concludes that the multinucleated giant cells known as "osteoclasts" probably include several morphologically similar but developmentally distinct elements In the earliest stages of bone development and to a certain extent in later stages, osteoclasts apparently arise from the confluence of the mesenchymal cells and conective tissue of the marrow The chief source of osteoclasts however, is from old osteoblasts and bone cells Depleted basophilic osteoblasts coalesce to form multinucleate masses These syncytial elements become typical osteoclasts when their cytoplasm assumes an oxyphilic stainability All intermediate tinctorial stages are demonstrable True oxyphilic osteoclasts also exist in cytoplasmic continuity with basophilic osteoblasts Increase in size and nuclear content results from the engulfing of osteoblasts met in the path of resorption and from bone cells which are ingested as the bone matrix is resorbed Osteoclasts undergo retrograde changes and ultimately disappear through extreme degeneration Only indirect and insufficient evidence points to the osteoclasts as the active specific agents of bone resorption That they are merely degenerating, fused osteoblasts in Arey's opinion accords better with the known facts

Spleen and Phagocytic Activity —The cycle of changes associated with the phagocytic activity of the splenocytes of the rabbit was followed by Addison He noted that when washed pigeon corpuscles are injected intravenously, they are rapidly hemolyzed The hemolysis of the pigeon blood results in the liberation of great numbers of bone marrow cells mature and immature These are caught within the spleen, and quickly begin to be ingested by the splenocytes The splenocytes grow with their increased contents until at the sixteen hour stage they reach a very large size As many as twenty cells are visible in a 4 microns section of a splenocyte, measuring 55 by 23 4 microns As digestion proceeds, the splenocytes become smaller, and at the forty-eight hour stage they are much reduced in sizes some being not much larger than normal Of the products of hemolysis of the pigeon blood after a single injection little remains within sixteen hours In the spleen, the splenocytes have an increased amount of iron containing substances while the endothelial cells show for the most part, very little The comparatively small results seen within the phagocytic cells follow from the rapid reduction of the foreign blood corpuscles to particles of a very small size and from the short time in which these fragments remain within the blood stream In this special experimental procedure where cells and cell fragments are the stimulus to phagocytosis the splenocytes are the first to act, and they continue to act as the main phagocytic agents

American Journal of Ophthalmology, Chicago

January 1920 **3** No 1

Syphilitic Neuroretinitis H V Wuerdemann Seattle —p 1
Test Objections for Illiterate A I Ewing St Louis —p 5
Venesection as Preventive for Explosive Hemorrhage F J Maddox Bournemouth England —p 23
Experiments on Eye with Gas Mantles of Different Compositions C E Ferree and G Rand Bryn Mawr College —p 24
Role of Focal Infections in Sympathetic Ophthalmia C T Col- Seattle —p 33

Visual Defects of West Point Cadets K A Phelps, Minneapolis —p 39
Cyclodialysis H S Gradle Chicago —p 41
Occlusion of Central Artery of Retina by Paracentesis of Cornea L W Callan New York City —p 48
Simple and Practical Tonometer E J Brown Minneapolis —p 48
New Perimetric Chart A Cowan Philadelphia —p 49
Visual Disturbances from Damage to the Centers G A Veasey Spokane —p 51
Standardization of Ophthalmology and the Ethical Attitude of its Members J H Burleson San Antonio —p 52

American Journal of Physiology, Baltimore

Jan 1, 1920, **50** No 4

*Cardiovascular Reaction in Valsalva Experiment and in Lifting Note on Parturition P M Dawson and P C Hodges Madison Wis —p 481
Some Aspects of Neuromuscular Respiratory Mechanism in Chelonians H C Coombs New York —p 511
Protective Action of Some Organic Substances on Catalase in Acid Medium M Takeda Tokyo —p 520
*Gastrin Studies II Distribution and Extraction of Gastrin Bodies A B Luckhardt, R W Keeton, F C Koch and V La Mer Chicago —p 527
Physicochemical Studies on Bioluminescence 1 Luciferine and Luciferine of Cypridina Hilgendorfii S Kanda Fukuoka Japan —p 544
Id II Production of Light by Cypridina Hilgendorfii is not an Oxidation S Kanda Fukuoka Japan —p 561
Preparation of Adenine Nucleotide by Hydrolysis of Yeast Nucleic Acid with Ammonia A Jones Baltimore —p 574
*Changes in Hydrogen Ion Concentration of Urine, as Result of Work and Heat G A Talbert Baltimore —p 579

Effect of Strain on Heart Rate and Blood Pressure—Dawson and Hodges report the results of their experiments to determine the immediate effect on the heart rate and blood pressures of exercises of strain By "exercises of strain" is meant those muscular efforts which are performed with the glottis closed and which tend to compress the chest, thereby causing a rise in intrathoracic pressure The two forms of strain studied were the Valsalva experiment and lifting In the Valsalva experiment, the systolic pressure rose rapidly, primary rise This was followed by an extensive fall On cessation of the Valsalva effort there was a moderate rise of the systolic pressure Lifting was characterized by changes in systolic blood pressure essentially similar to those which occurred in the Valsalva experiment When the Valsalva or lift was modified, the usual picture was somewhat changed The effect on the heart rate of greatly prolonging the Valsalva experiment was to decrease the intensity of the effort and with this the extent of the changes in the heart rate When the Valsalva experiment experienced a series of interruptions consisting of a single gasp each, the systolic blood pressure rose with each gasp from 10 to 20 mm above normal When a lifting experiment experienced similar interruptions, the changes of heart rate were less in extent than would otherwise occur even when the weight lifted was greater in amount Observations were also made during parturition During a labor pain in the anesthetized and tracheotomized rabbit, the mean blood pressure experienced changes (rise followed by fall) which are attributable to the changes in peripheral resistance due to uterine contraction and subsequent relaxation The respiration also changed decreasing in amplitude to a standstill in the inspiratory phase and then gradually returning to normal

Cause of Gastric Secretion—The existence of two classes of bodies causing gastric secretion is suggested by the authors Whether these bodies are extractives from special tissues or hydrolytic cleavage products has not been determined The investigation in the distribution of gastrin bodies has been temporarily abandoned for the more promising studies into the chemical nature of the product derived from the gastric mucosa

Hydrogen Ion Concentration of Urine—Talbert claims that intense exercise from fifteen to twenty minutes' duration increases the hydrogen ion concentration of the urine A man subjected to the heat of a sweat cabinet for fifteen or twenty minutes will, in a large majority of cases, void a urine of higher hydrogen ion concentration If muscular exercise follows immediately on subjection to heat, or vice versa, it is impossible to interpret the results

Annals of Otology, Rhinology and Laryngology, St Louis

September 1919 **28**, No 3

Otolaryngology in War H P Mosher Boston —p 673
Delayed Secondary Hemorrhage Complicating Tonsillectomy V Dabney Washington —p 697
Otologic Work in U S A General Hospital for Head Surgery J M Ingersoll Cleveland—p 700
Case of Brain Abscess Dependent on Empyema of Frontal Sinus T J Harris St Louis —p 721
Experiences in Surgery of Thyroid J C Beck Chicago —p 728
Open Safety Pin in Trachea R McKinney Memphis —p 777
Case of Chronic Bilateral Abductor Paralysis of Vocal Cords (Cricoarytenoideus Posticus) Result of Goiter Operation A W Corwin Chicago —p 781
Unusual Nasal Manifestation (Condyloma) of Syphilis C W Richardson Washington D C —p 786
Retrobulbar Neuritis from Posterior Accessory Sinus Disease Report of Seventeen Cases L E White Boston —p 793
Tonsillectomy Under Local Anesthesia G B Johnson, Franklin —p 819
Gangrene of Right Temporosphenoidal Lobe of Otic Origin Extensive Excision of Lobe Recovery J F McCaw Watertown —p 823
Case of Sarcoma of Pharynx W C Bane Denver —p 828
Digest of American and English Otologic Literature for the Year 1918 O M Rott Spokane —p 831
Study of One Hundred Cases of Suspected Chronic Nasal Accessory Sinus Disease Report of the X Ray Findings H C Ballenger Chicago —p 894

Boston Medical and Surgical Journal

Feb 5 1920 **182**, No 6

Surgical Treatment of Peptic Ulcer Report of Cases P E Truesdale Fall River Mass —p 135
*Treatment of Back Injuries Spinal Fractures That Are Not Associated with Cord Symptoms H W Marshall Boston —p 140
Some Incidents in the Life and Military Campaigns of Baron Larrey (1766 1842) W P Coues Boston —p 146
Technic of Citrated Blood Transfusion H C Marble Boston —p 153

Treatment of Back Injuries—From the study of thirty cases of vertebral fractures without cord symptoms and from a much larger series of simple back strains, Marshall concludes that spinal bone grafts are suited best for well-to-do patients who will be considerably benefited by slight or moderate improvements in their physical conditions Results of surgical methods are not beneficial enough uniformly and chances of fair or excellent recoveries are so good in healthy young adults without operation, that spinal bone grafts are not warranted in the majority of workmen's cases Spinal grafts reenforce the posterior group of spinal ligaments and usually strengthen spines at least to slight degrees There are some dangers that unavoidable injuries to muscles and ligaments which result from surgical procedures may weaken backs more than inlaid grafts strengthen them Mechanical appliances are required very commonly for considerable periods of time even after successful grafts, and results of this combination are presumably better often than either single method of treatment alone Slight degrees of bony fracture in healthy young subjects are fairly well recovered from without operation in six months or less at times, and severer grades of bony impactions occasionally are followed by complete restorations of back functions without operations several years after dates of injuries Treatments of back injuries perhaps, should be directed primarily toward restoring strengths in muscular and ligamentous tissues because these are phases of treatment which are usually overlooked and neglected but pathologic conditions in crushed vertebrae should be appropriately treated by immobilization and protection in ways universally approved in treatment of fractures Treatments of musculoligamentous defects should include use of various therapeutic agents, according to physiologic requirements of the tissues in question There should be use of mechanical braces to reenforce muscles and to offset temporarily the extra mechanical strains due to faulty postures or anatomic deformities Physical therapeutic agents, massage manipulations and exercises should be employed as well as internal medical measures The latter rectify vascular defects and influence muscles and ligaments through the qualities of circulating blood Continuous exclusive use of any one of these methods is unjustifiable for very long periods, and they should be alternated and combined with due regard to established physiologic principles of alternate rest and activity known to be best for muscles and ligaments

Feb 12 1920 **182** No 7

- *Present Needs of Tuberculosis Campaign J B Hawes Boston —p 161
- *Diet Reduction with Retention of Protein to Relieve Glycosuria in Diabetes Mellitus R L Fenlon Iowa City —p 168
- Pathology of Influenzal Pneumonia. F P McNamara New Haven Conn —p 171
- Possibilities of Carrel Dakin Technic in Civil Life A G Rice Springfield —p 174
- *Treatment of Chronic Ulcers F F Stowell Worcester —p 176
- Case of Metacarpal Fracture S S Dearborn Nashua N H —p 178

Present Needs of Tuberculosis Campaign—Hawes does not believe that more laws in regard to tuberculosis are needed Overzealousness on the part of local health boards he says, has done harm to many patients and prejudiced their physicians strongly against reporting future cases Education as to the need of reporting tuberculosis on the one hand, and tact on the part of the local authorities, on the other, are what will solve this problem Nor does he believe that antispitting laws accomplish much Here again education as to habits of cleanliness and decent living and not more legislation is what is needed The harm done by the careless spitter and the incorrigible consumptive he says is, after all, very slight What has been accomplished in reducing the mortality from consumption during the past twenty-five years, and what shall be accomplished in the future is not because by means of sanatoriums a number of patients have been cured nor because the spread of infection has been prevented by providing beds for advanced consumptives but because the gospel of right living has been spread It is what is being done to solve the tenement and housing problem, it is the school and factory inspection and hygiene, the prevention of industrial diseases it is a pure milk and water supply thereby eliminating typhoid and other acute infectious diseases, open air schools boy scouts, health crusaders—it is all this and not efforts directed solely to the tubercle bacillus or the tuberculous individual that is ridding the world of tuberculosis

Diet Reduction with Retention of Protein to Relieve Glycosuria in Diabetes Mellitus—The theories underlying the diet reduction method are outlined by Fenlon By keeping the protein intake of the diet at a necessary level the *tendency to a development of acidosis is decreased as the* patient does not have to burn his own body fats Protein is needed to replace that lost by the wear and tear on the tissues during the metabolic changes of the body Chittenden's standard of 0 12 gm of nitrogen per kilogram of body weight is necessary to the body during a diet reduction This amount of protein is increased in this method because of the altered metabolic changes in diabetes With the protein intake maintained at a definite level the percentage of carbohydrate in the diet would be relatively decreased Under preparatory treatment to fasting the protein and fat are both reduced, leaving the carbohydrates relatively high The tolerance of the patient is more easily and quickly determined There is less complaint of hunger on the part of the patient by this method of reducing diet The protein in the diet, by maintaining the serum protein in the blood possibly aids in the nutrition and functioning of the kidney during the diet reduction Of fifteen patients treated according to this method, 100 per cent were discharged sugar and ketone free

Treatment of Chronic Ulcers—After a preliminary washing of the ulcer with soapsuds 1 2000 mercuric chlorid and alcohol, as much dead material as possible is removed with forceps and the base of the ulcer is very gently curetted to remove slough and exudate The ulcer is then cleaned again with alcohol and painted with a 50 per cent tincture of iodin The patient is then connected with the negative pole of the static machine the positive pole being grounded and the static breeze and sparks thoroughly applied to ulcer and surrounding areas According to Stowell this usually relieves all pain at the first treatment and can be so regulated as not to be unpleasant The object of all this is to remove stasis and stimulate healing A dry dressing or occasionally in the judgment of the operator, a boric ointment dressing is applied and then the leg is bandaged This Stowell considers is a most important part of the treatment and he says it must be done correctly The method is described in detail

Bulletin of Johns Hopkins Hospital, Baltimore

January 1920 **31** No 347

- *Effect of Pyloric Obstruction in Relation to Gastric Tetany W G MacCallum J Lintz H N Vermilye T H Leggett and E Boas Baltimore —p 1
- *Acute Cholecystitis in Children as a Complication of Typhoid Fever M R Reid and J C Montgomery Baltimore —p 7
- *Roentgen Ray Studies of Seminal Vesicles and Vasa Deferentia after Urethroscopic Infection of Ejaculatory Ducts with Thorium New Diagnostic Method H H Young and C A Waters, Baltimore —p 12
- *Self Eventration of Large Abdominal Hygroma through Scalpel Prick of Peritoneum W S Halsted Baltimore —p 13
- *Upturned Edge of Liver Acutely Distended Empyematous Gallbladders. W S Halsted Baltimore —p 14
- Fate of Bacteria Introduced into Upper Air Passages A L Bloomfield Baltimore —p 14
- Case of Nonparasitic Hematochyluria H H Hampton Baltimore —p 20
- *Myoma of Uterus Showing Unusual Degenerative Changes I Brady Baltimore —p 24

Pyloric Obstruction and Gastric Tetany—The authors point out that when the pylorus is obstructed and the gastric juice with its hydrochloric acid is constantly removed there ensues a decrease in the chlorin of the plasma There is a consequent increase in the alkali reserve which becomes extreme The electrical excitability of the nerves is in general heightened and there are spontaneous twitchings and in most cases violent convulsions which lead to death All of this can be prevented by constantly furnishing a large supply of chlorids The authors injected from 50 to 100 c c of a 2 M (117 gm in a liter) sodium chlorid solution intravenously It is less easy to cure the condition by the administration of chlorids The convulsive movements are not exactly like the twitchings of the tetany of parathyroidectomy in which they found no heightened alkali reserve but they can be produced by the injection of sodium carbonate or bicarbonate Since these convulsions can be stopped or prevented by sodium chlorid it remains a problem as to what becomes of the excessive base sodium and as to the specific need of the chlorin ion Further experiments are contemplated to settle these points

Acute Cholecystitis Complicating Typhoid—Reid and Montgomery report a case of a large typhoidal empyema of the gallbladder in a girl aged 8 years and review eighteen cases of typhoid fever in persons less than 15 years of age who either died from or who were operated on for complications arising in the gallbladder The authors believe that the low operative mortality (only one of these patients died) justifies operation when there is grave doubt as to the nature of the condition of the gallbladder Acute typhoidal suppurative cholecystitis should receive immediate surgical treatment for in such cases rupture of the gallbladder may occur and thus lessen many times the chances of recovery The best treatment is said to be cholecystectomy

Roentgen-Ray Studies of Seminal Vesicles and Vasa Deferentia—Young and Waters believe that they have demonstrated that catheterization of the ejaculatory ducts and radiographic study of the canal system above may be carried out with ease and that it furnishes a ready and satisfactory method of determining the condition of these structures The process is apparently without danger In about fifty cases in which the instruments and thorium solution have been introduced for varying distances into the vasa deferentia and seminal vesicles they have never encountered an epididymitis or any other deleterious sequels The method is described in detail

Self-Eventration of Large Abdominal Hygroma—A child 2 years old was brought to Halsted to be tapped for ascites The child's abdomen presented the typical ascitic picture In making a short incision in the midline the peritoneum was accidentally pricked Immediately there protruded through the prickhole a vesicle hardly larger than a mustard seed The little bladder, slowly increasing in size, soon covered the abdomen, and finally in saddlebag fashion fell over the child's flanks, a broad, flat isthmus of sac-contained fluid stretching across the now scaphoid belly from one great bag of water to the other, both of these resting on the bed sheets The wall of this great cyst was of filmy thinness The midline incision was then lengthened and a search made for the pedicle, about which several small cysts were found to be grouped All of these seemed to have their origin in the great omentum—embryologically, in the posterior mesogastrium An independent cyst, about as large as an orange, seemed to be contained between the layers of the duodenal mesentery, the continuation of the stomach's mesentery or posterior mesogastrium This cyst was so adherent to the mesenteric vessels that Halsted feared its removal might imperil the circulation of the bowel, hence he stitched its wall to the parietal peritoneum, and in a few days opened and drained it The child made a prompt recovery Twenty-two years later, examination of the abdomen revealed nothing abnormal, except, perhaps, a little tenderness in the region of the appendix

Upturned Edge of Liver in Gallbladder Infections—Halsted regards this as a diagnostic sign of some value He has never noted this upturned or everted edge in the absence of signs of infection of the gallbladder, but is not sure that it may not occur with *hydrops vesicae* More than once this sign has enabled Halsted in a debatable case to make the correct diagnosis

Fate of Bacteria in Upper Air Passages—Bloomfield found that *B coli* and *Staphylococcus albus* swabbed on the tongue or nasal septum usually disappeared within twenty-four hours *B coli* and *S albus,* introduced into tonsil crypts could be recovered after somewhat longer intervals In no case was a permanent carrier state set up Inert particles disappeared at about the same rate of speed as the bacteria The organisms probably disappear because they are mechanically removed more rapidly than they multiply The disposal of *B coli* and *S albus* illustrates a mechanism radically different from that effective in removing *Sarcina lutea*

Nonparasitic Hematochyluria—Hampton reports a case of nonparasitic chyluria that has persisted over a period of nine years in a young woman whose health was below par She had a mitral stenosis that had given symptoms at intervals for more than ten years Her chief complaint had been general weakness wih frequent syncopal attacks Just how much of her disability depended on one or other of these conditions, could not be determined Apparently, her kidney function was unimpaired There was no evidence of renal or pulmonary tuberculosis The leak in the lymphatic system was located in the right kidney On starvation or a fat-free diet, the urine became fat-free blood cells and albumin persisting Posture influences did not control the amount of lymph leakage Increased water intake and urine output increased the fat loss"

Myoma of Uterus with Degenerative Changes—In Brady s case a large cystic mass extended out into the broad ligament, and arising from the posterior surface of the uterus and extending into the left side of the abdominal cavity there was a large myoma The cyst was multilocular, heart shaped, had a bluish color and extended downward from the lower surface of the uterus On the inner and lower side of the cyst, about 2 cm from the external os of the uterus, there was in the vagina an opening about 2 mm in diameter A small probe was introduced into this opening and a definite canal dissected out Brady says that such a canal is in exactly the correct location for one of the rather rare embryonic remains of Gaertner's duct Cross sections of the duct showed a musculature resembling that found in an artery and no epithelial lining The cyst was made up of several smaller cysts, each of which was filled with grumous material In one of these smaller cysts was a well developed polyp Sections from the cyst showed it was a myoma showing degenerative changes

Journal of Laboratory and Clinical Medicine, St Louis

January 1920 5, No 4

Relation of Common Bile Duct to Pancreatic Duct in Common Domestic and Laboratory Animals F C Mann, J P Foster and S D Brimhall Rochester, Minn—p 203

A Second Model Illustrating Phases of Kidney Secretion M H Fisher Cincinnati—p 207

*Report of Five Cases of Poisoning by Nicotin W D McNally, Chicago—p 213

*Ectopic Adenomyoma of Uterine Type Report of Ten Cases A E Mahle and W C MacCarty, Rochester Minn—p 218

Importance of Biologic Classifications in Epidemiology L C Havens Iowa City—p 229

Icebox Fixation Method in Performance of Wassermann Reaction R G Owen and F A Martin, Detroit—p 232

Comparative Study of Wassermann Test and Hecht Weinberg Gradwohl Modification A J Blanas Brooklyn—p 244

Method for Preparing Bacteriologic Medium Containing Ascites Fluid L G Grace Cleveland—p 253

*Early Diagnosis of Typhoid and Paratyphoid Infections H J Goeckel Plainfield N J—p 255

Hexamethylenamin Interferes with Test for Indoxyl in Urine H J Goeckel Plainfield N J—p 257

Device for Withdrawing Blood from Veins C L Cummer, Cleveland—p 257

Traumatic Hemolysis and Wassermann Reaction G M Olson, Minneapolis—p 259

Poisoning by Nicotin—The five cases of poisoning reported by McNally have occurred from taking insecticides containing nicotin by mistake for whisky

Ectopic Adenomyoma of Uterine Type—The ten cases reported by Mahle and MacCarty were extra-uterine and extratubal tumors diagnosed at the time of operation as adenomyomas These growths contained glandular portions resembling typical uterine mucosa, surrounded by a fibrous connective tissue and smooth muscle stroma, the latter in varying amounts The distribution of the tumors was as follows umbilicus, 1, abdominal wall, 2, sigmoid, 1, groin, 2 and rectovaginal septum, 4 Clinically these tumors gave no consistent group of symptoms on which an accurate diagnosis could be made Of the ten patients, six gave a history of symptoms directly referable to the tumor

Early Diagnosis of Typhoid and Paratyphoid Infections—Goeckel claims that it is possible to obtain and identify typhoid and paratyphoid bacilli in the urine by agglutinins before the blood shows a positive Widal reaction or a typical cell count By this means a prompter report may be given than if blood culture is resorted to It is a more definite method of identification of the infection than is identifying agglutinins in the patient s blood serum It is also more positive and eliminates reliance on the Widal reaction of blood serum Goeckel suggests that it should be resorted to whenever possible in patients who may have a natural or acquired agglutinating capacity due to previous infection or through the use of vaccines

Journal of Urology, Baltimore

October 1919 3, No 5

*Congenital Obstruction of Posterior Urethra H H Young, W A Frontz and J C Baldwin, Baltimore—p 289

Certain Relations Between Shell Fracture of Spine and Changes in Kidney and Bladder Function H W Plaggemeyer Detroit—p 367

*Routine Examination of Bladder in Secondary Syphilis E L Zimmermann and C S Levy Baltimore—p 407

*Effect of Prostate Feeding on Development of Tadpoles D I Macht Baltimore—p 411

Toxicity of Pyelographic Mediums Death Following Use of Thorium Nitrate E H Weld Rochester Minn—p 415

Congenital Obstruction of Posterior Urethra—Twenty-four authenticated cases of congenital obstruction of the posterior urethra recorded in the literature are reviewed by Young and his associates, and twelve cases, admitted to the Johns Hopkins Hospital are reported in detail Three distinct types of congenital obstruction, all more or less valvular in construction, so placed that the concave surface of the valve is directed upward thus bringing about an obstruction to the outflow of urine In the great majority of cases, symptoms of the condition are manifest during infancy or early childhood Symptoms of the condition are those arising from obstruction to the outflow of urine, together with the symptoms resulting from renal destruction, induced by back pressure and infection The history of symptoms of urinary obstruction in male children in the authors' opinion should always suggest the possibility of this condition The presence of a distended bladder and particularly of residual urine, is further indicative of obstruction This possibility is further strengthened by obstruction in the posterior urethra to the passage of a catheter Much information regarding the character and exact location of the valves and the renal damage resulting therefrom may be obtained by urethroscopy the use of the roentgen ray, and renal function studies The treatment of the condition is surgical, and consists of the removal of the obstruction This may be accomplished in certain cases by the passage of a sound, with the forcible rupture of the valve, in certain other cases the obstruction may be removed by the urethrotome or by urethroscopic methods Of the operative procedures the selection of the suprapubic or perineal route will be governed by the personal preference of the operator In infants and young children the suprapubic method has proved very satisfactory, the valvular obstruction being removed by its forcible rupture with a sound, its division with a rongeur or its removal by scissors or cautery In adults the condition is treated in most cases by intra-urethral methods

Bladder in Secondary Syphilis—Twenty four male patients with active secondary syphilis were selected by Zimmermann and Levy for this investigation Nine cases presented macular syphilides, twelve a papular eruption and in three the eruption was pustular In eighteen there were lesions on the mucous membrane of the mouth and pharynx or moist lesions about the anus or on the scrotum In no case were urinary symptoms present, and examination of the urine was negative, except for a few shreds in the first glass in a few cases of chronic urethritis No striking bladder changes were discovered In ten cases slight vascular changes were noted in the region of the trigone in the form of a delicate ramifying network, and on the bladder wall itself as an increase in the caliber of the vessels The vascular changes were not considered significant None of these cases presented either papular or ulcerative lesions

Effect of Feeding Prostate—By feeding prostate gland to the larvae, the metabolism of the tadpoles was stimulated and their metamorphosis was hastened In other words, the tadpoles developed legs earlier than normally and were soon transformed into frogs At the same time the size of the tadpoles was not diminished and indeed in many cases the tadpoles also increased in size This effect was produced by feeding the desiccated prostate of the ram of bulls and of human prostate Macht believes that such a phenomenon speaks strongly in favor of an internal secretion of the prostate gland

Medical Record, New York

Jan 24 1920 **97** No 4

*Empathic Index and Personality A A Brill New York—p 131
Modern Treatment of Obesity by Faradic Electricity Bergonie Method E C Titus New York—p 134
Action of Electrical Currents on Ductless Glands and Other Tissues F DeKraft New York—p 136
Diagnosis of Abdominal Tumors A McGlannan Baltimore—p 138
Radium Treatment of Uterine Hemorrhage T C and W H Kennedy Indianapolis—p 141
Inhalation Treatment in Pulmonary Tuberculosis B Robinson New York—p 143
*Administration of Arsphenamin by Retention Enema J L Mandracchia Brooklyn—p 144

Empathic Index and Personality—This term was coined by E B Titchener and deals with the idea of reading oneself into an animate or inanimate object Brill regards this index as being a new and quick method of observing a person's mode of adjustment He speaks of a racial national and biologic empathic index and relates his experience in determining the index in different persons on the basis of "Tell me your empathic index, and I will tell you who you are" For instance, Brill has found that a nickname given by classmates or friends usually shows the person s empathic index The woman s empathic index always shows the type of man that appeals to her

Administrations of Arsphenamin by Retention Enema—Mandracchia describes a method by which arsphenamin is given in an enema The solution of arsphenamin is prepared in the usual way, diluting it to between 200 and 250 c c The apparatus consists of a glass cylinder of a capacity of about 300 c c, connected at one end with a rubber tubing having a glass window and a stopcock and a rectal tube of sufficient caliber so that the fluid can flow easily and swiftly The solution having been prepared and placed in the cylinder and the air having been expelled the patient if a male is allowed to assume the genupectoral position and if a female the lateral or Sims position After the rectal tube has been introduced into the rectum for 4 or 5 inches the solution is allowed to flow into the rectum by gravity after the stopcock in the rubber tube has been opened As a rule the average patient can hold this enema from twenty to twenty-four hours In exceptional cases it has been held for four days Arsphenamin seems to have a constipating effect on the intestinal tract Where a patient cannot retain the enema it has been the custom to give a dose of the tincture of opium or paregoric by mouth In children this is a standing rule The enema having been given the patients are sent to bed and allowed to remain in bed for about four hours instructing them to change their position at frequent intervals Reverse persistalsis can be more readily facilitated when the foot of the bed is elevated In adults the initial dose is 0 3 gm and every dose thereafter is 0 6 gm The enema can be given either once or twice a week all depending on the condition of the patient By giving the enema twice a week it is believed that the spirochetes are kept in a constant arsenic saturation and thus the duration of the infection is materially shortened The ideal time to give these enemas is in the evening During the course of arsphenamin enemas the patient should undergo a course of active mercurial treatment No sequels such as headaches nausea vomiting fever dizziness, or subsequent nitroid crises acting destructively on the eyes, kidneys and liver, or a fatal termination have been observed by Mandracchia

Nebraska State Medical Journal, Norfolk

January 1920 5 No 1

Symptomatology of Diaphragmatic Pleurisy A D Dunn Omaha—p 1
Contaminated and Infected Wounds Principles of Treatment with Antiseptics and Terminology D C Hilton Lincoln—p 5
Organotherapy in Gynecology I C Munger Lincoln—p 12
*Malignant Sarcoma M Emmert Omaha—p 14
Amaurotic Idiocy Report of Cases F Clarke Omaha—p 17
Acriflavine in Gonorrhea F G Davis Omaha—p 19
*Surgical Problems of Pancreas Report of Cases C E Roeder and A L Nielson Omaha—p 23

Malignant Sarcomas—Emmert reports a case of tumor on the posterior surface of the right thigh midway between the trochanter and the popliteal space about the size of a large orange in which a clinical diagnosis of sarcoma was made and operation advised The tumor was removed The pathologic diagnosis was simple fibroma with large connective tissue cells Six weeks after leaving the hospital a streptococcus infection started in the scar and spread over the entire leg and thigh This subsided in two weeks One week later there developed rapidly on the median surface of the left ankle a tender inflammatory mass which was thought to result from the recent infection This persisted for several weeks and then the inflammatory condition subsided leaving a firm mass which was recognized as a sarcoma The mass was removed five months after the first one The pathologic diagnosis was fibromyxosarcoma spindle and round cells The second patient was only 2 months old At the time of birth a mass the size of a pigeon s egg was noticed on the thoracic wall The mass was excised later The microscopic diagnosis was fibromyxosarcoma

Surgical Problems of Pancreas—Roeder and Nielsen report three cases congenital pancreatic cyst infectious pancreatic cyst and acute pancreatitis

New York Medical Journal

Jan 24 19[illegible]0 **111** No 4

Results of Fracture of Femur Caused by [illegible] Wo[illegible] Bowlly London—p 133
Uncorrected Factors Perpetuating Stom[illegible] A Work J C Wood Cleveland—p 1[illegible]
Essential of Succe[illegible] in [illegible] tatic [illegible] Boston—p 1[illegible]

Eye in Pregnancy L C Peter, Philadelphia—p 141
Value of Inhalation of Certain Gases in Prevention of Influenza B Robinson New York—p 142
Roentgen Therapy in Gynecology W H Meyer New York—p 143
Some Extragastric Causes of Gastric Symptoms M B Kunstler New York—p 144
Clinical Analysis of Influenza Cases A S Blumgarten, New York and F H Voss, Gardner, N J—p 146

Jan 31 1920, **140**, No 5

*Wassermann Contradictions Considered from Clinician's Point of View A L Wolbarst, New York—p 177
Extraction of Rifle Bullet from Bladder by Natural Route G Luys, Paris—p 181
*Dental Syphilitic Chancre H Goodman, New York—p 183
Coordination of Principles of Chemistry with Laws of Immunity in Treatment of Tuberculosis B S Paschall, New York—p 184
Psychology of Conscientious Objector D E Hoag New York—p 187
Curing the Drug Addict J A Hamilton New York—p 192
Compulsory Health Insurance C H Chetwood, New York—p 193
Shortening of Round Ligaments When Operating for Other Intrapelvic Conditions S Goldberg, Buffalo—p 197

Wassermann Contradictions—Wolbarst is of the opinion that the Wassermann test and the gonorrhea fixation test should be made bv at least three serologists working independently, the serum should be taken simultaneously and sent to the different laboratories under identical conditions, one serologist is not to be depended on, however capable he may be Three serologists will agree in approximately 53 per cent of Wassermann tests and approximately 42 per cent of gonorrhea fixation tests That is, the chances are about fifty-three in a hundred that three serologist will agree on any given serum They are more likely to agree in the negative cases than in the positive cases At all events, it is well to devote more studv to the clinical features of all cases and trust not quite so implicity on laboratory workers for a diagnosis

Dental Syphilitic Chancre—Goodman reports a case of syphilitic infection contracted at the site of tooth extraction

Philippine Journal of Science, Manila

August 1919 **15**, No 2

Application of Generic Name Melodorum of Loureiro E D Merrill Manila—p 125
Jumping Plant Lice of Paleotropics and South Pacific Islands D L Crawford Honolulu—p 139
Genus Krisna (Jassidæ) C F Baker Los Banos, P I—p 209

Southwest Journal of Medicine and Surgery, El Reno, Okla

January 1920 **28** No 1

University of Oklahoma School of Medicine L Long Oklahoma—p 2
Chronic Progressive Cerebellar Tremor G M Eckel Hot Springs—p 4
*New Method of Inserting Bone Graft for Correction of Kyphosis S A Grantham Joplin—p 8
Fractures of Upper End of Humerus M E Stout Oklahoma City—p 10
Postbellum Morbidity J A Roddy Oklahoma City—p 13

New Method of Inserting Bone Graft for Correction of Kyphosis—The method which Grantham proposes is to make a transverse incision, 1 inch long, just below the posterior spinous process of the affected vertebrae extending through the supraspinous ligament A thin osteotome, made with a reverse curve, is introduced as far as the base of the spinous process, the process is sheared in a direction parallel with the spinal canal, the two processes above the vertebra are cross sectioned in the same manner without the withdrawal of the instrument The osteotome is then withdrawn and inserted in the opposite direction, and two spinous processes below the affected vertebra are cross sectioned in a similar manner, a graft of sufficient length, from one-half to three-quarters inch in width, is secured, the capsular layer of periosteum is removed in such manner as to leave as much of the intervening osteogentic layer of cells as possible on the graft The graft is now introduced into the tunnel thus prepared for its reception, if the skin incision requires a suture, it is placed subcuticularly, with catgut armed with two needles, so that the needles pass from within outward in passing through the skin Grantham claims for his method that the graft is placed in direct bony contact, the endosteal surface to the stumps of the cross sectioned posterior processes, near the laminae, the periosteal surface, its fibrous capsule removed and as much as possible of the osteogentic layer of cells preserved, is pressed firmly bv the freed ends of the processes, held in situ by the uncut lumbodorsal fascia, and supported literallv by the muscles of the back

United States Naval Medical Bulletin, Washington

January 1920 **14**, No 1

Comparative Anthropometric Study L S Solhaug, M C U S Navy—p 1
Medical and Hygienic Aspects of Submarine Service E W Brown M C U S Navy—p 8
Queen s Hospital for Facial and Jaw Injuries Frognal Sidcup Kent England L W *Johnson M C, U S Navy—p 17*
Military Orthopedic Hospitals in the British Isles R Hammond Providence R I—p 65
Scuttle Butts on Board Ship J A B Sinclair M C, U S Navy—p 137
Bronchopulmonary Spirochetosis in An American G W Lewis M C U S Navy—p 149
Probable Case of Encephalitis Lethargica A F Kuhlman M C, U S Navy—p 151
Defense of Open Air Treatment of Pneumonia D Ferguson, Jr M C U S Navy—p 153

FOREIGN

Titles marked with an asterisk (*) are abstracted below Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

Jan 24 1920 No 3082

Clinical Research J MacKenzie—p 105
*Early Diagnosis of Pulmonary Tuberculosis T Beattie—p 111
*Routine Treatment of Malaria in Uganda J A Taylor—p 113
*Comparison of Two Methods of Administering Arsenobenzol Compounds in Syphilis H E Gibson—p 14

Early Diagnosis of Pulmonary Tuberculosis—Besides placing dependence on the family historv, previous history, as of pleurisy and hemoptysis, subjective symptoms, such as gradual loss of flesh or of constantly increasing languor, lassitude, tiredness, inaptitude for work, indigestion, dyspepsia, retching, anemia, slight evening pyrexia, feeling dull and tired in the evenings, objective signs, such as deficient expansion, impaired resonance on percussion, cogwheel respiration, posttussive crepitations, and the roentgen ray, Beattie attaches much importance to the tuberculin diagnostic test He prefers to use Koch's T A , 1 1,000 dilution, 1 c c hypodermically

Treatment of Malaria—Most of the cases of malaria met with in Uganda Taylor says, are of the simple subtertian form without complications The routine treatment adopted by him in these cases was, calomel, in an average dose for an adult of not less than 5 grains, followed in some hours by a saline Quinin hydrochlorid 5 grains by mouth, one hour after the saline This was usually about 7 a m, and between this time and noon three more doses of 5 grains each were given at more or less regular intervals On subsequent days until the temperature had remained normal for twenty-four hours, 20 grains were given daily in the same manner, the first dose at 6 a m or as soon as the patient was awake and the last dose at noon After the temperature had been normal for twenty-four hours, the quinin was reduced to 15 grains daily—5 grains before the morning, midday and evening meals This was continued for one week and then reduced to 10 grains daily—5 grains morning and evening Ten grains dailv were continued for a fortnight, and then onlv 5 grains were given each evening for two months Acetphenetidin in 5 grain doses, up to 15 grains daily, for headache alone, or acetylsalicylic acid in the same doses, if complaint were also made of pains in the limbs and body Under this treatment the temperature usually remained normal after the third day, but occasionally, especially if a first attack after four or five davs, no complications occurred in any cases from the effects of the quinin or malaria, there were no recurrences of the fever during the three months treatment and attacks only occurred later when some definite fresh infection had taken place

Administration of Arsenic Compounds in Syphilis.—The two courses of treatment given by Gibson were a concentrated course which was completed in five or six weeks and a "prolonged course" which lasted about eight weeks Advantage seems to lie with the prolonged course partly owing to the lesser incidence and violence of reactions and partly because the total results are better than with the concentrated course, this especially applies to secondary cases

Indian Journal of Medical Research, Calcutta

October 1918 6 No 2

Area Sown as Measure of Bacterial Growth W F Harvey —p 127
*Yield by Weight of Bacterial Substance for Area Sown and Duration of Growth W F Harvey —p 131
*Dried Bacterial Antigen W F Harvey —p 137
*Report on Antiberiberi Vitamin Content of Ground Nut (Peanut) Meal Biscuits E D W Greig —p 143
Preparation of Sterile Tryptic Extract from Pancreatic Glands of Herbivora J Cunningham —p 147
Diagnosis of Acute Infections of Throat Occurring among Troops of Mesopotamian Expeditionary Force H W Acton —p 152
*Significance of Charcot Leyden Crystals in Feces As Indication of Amebic Colitis H W Acton —p 157
Leishmania Tropica Infections in Mesopotamia C P Connor —p 162
*Culture Medium Suitable for Growth of Organism Used in Vaccine D Norris —p 174
Twenty Years of Plague in India Outbreak of 1917 18 F N White —p 190

Yield of Bacterial Substance for Area Growth—Harvey claims that yield of bacteria as measured by surface growth is a reasonably good approximation to moist bacterial weight and is very easily estimated Weight of bacteria moist presents a considerable degree of direct relationship with weight dry There is, however a greater variability of weight moist for constant area of surface than there is of weight dry The weight of bacteria in the dried condition would, therefore, appear to be the only satisfactorily accurate measure of quantity of bacterial antigen

Dried Bacterial Antigen—Not only can a dried antigen of bacterial substance be prepared easily, but it can be used with safety in animals by intravenous and intraperitoneal injection Harvey found that such an antigen conserves its power of production of agglutinins for a long period It is of extremely small bulk, is easily measured by weighing and is capable of being dispensed in mixture with other similar antigens in any proportion desired

Antiberiberi Vitamin Content of Peanut Meal Biscuits—Greig s investigation shows that the ground nut (peanut) meal biscuit is as rich as the 15 per cent atta biscuit in antiberiberi vitamins Hence, the ground nut meal whether in the form of bread or biscuit would be suitable to form part of an "emergency' or other ration for issue to the troops

Charcot-Leyden Crystals in Feces in Amebic Colitis—After examining on an average about 500 stools a month Acton has come to regard the presence of Charcot-Leyden crystals to be an almost certain indication of the existence of an amebic colitis and not to be associated with helminth infections In the absence of amebas he does not hesitate to diagnose the case as amebic dysentery when pus mucus and Charcot-Leyden crystals are found and the results obtained by treatment with emetin justified the conclusion

Culture Medium Suitable for Growth of Organisms Used in Vaccines—Various types of culture mediums were prepared and examined by Norris with a view to the determination of their nutritive value as regards the growth of *B typhosus* for vaccine purposes Of the various meat mediums at present in use those prepared by means of a tryptic digestion appear to be much more nutritive than an ordinary beef peptone medium or than those prepared by acid hydrolysis The addition of nutrose and casein appears to have no great influence on growth unless added to a particularly nonnutritive medium The addition of a comparatively small amount of hydrolyzed nutrose to a poor medium increases the growing power to the level of an ordinary trypsinized medium Glucose seemed to inhibit growth Mediums obtained by the tryptic hydrolysis of nutrose press cake from ground nut and casein give material equal in nutritive value to that obtained from meat In examining the nutritive value of these mediums concentration of substrate appeared within limits to be of greater importance than time of hydrolysis

Japan Medical World, Tokyo

Jan 1920 No 31

Antigen for Wassermann Test R Kobayashi —p 17
Treatment of Cystitis in Women by Injection of Colloidal Silver F I Kito —p 17
Clinical Applications of Solidified Carbonic Acid. T Sato —p 17
*Wassermann Reaction of Aqueous Humor G Okazaki —p 17

Wassermann Reaction of Aqueous Humor—In the aqueous humor of the eyes of syphilitics except when inflammation of the eye existed Okazaki succeeded in demonstrating a Wassermann reaction in the proportion of 1 200 or even 1 600 part of the blood contents In the presence of inflammatory diseases of the eye the antibodies appeared in an even higher concentration The Wassermann reaction in the aqueous humor occurs just as soon as it does in the circulating blood

Dublin Journal of Medical Science

January 1920 3 No 577

*Pancreatic and Intestinal Infantilism T G Moorhead —p. 1
The Criminal as a Patient C E McQuade —p 11

Pancreatic and Intestinal Infantilism—In one case cited by Moorhead the apparently primary pathologic change was a catarrhal condition of the colon and probably also of the small intestine, and in consequence the author regards the case as one of undoubted intestinal infantilism Other changes present were probably secondary and resulted from the inanition produced by the bowel condition The second case reported appears to be a further confirmation of Byron Bramwell s view that pancreatic infantilism is a definite entity

Journal of Laryngology, Rhinology and Otology, London

January 1920 35 No 1

Intratracheal Tumor Removal by Peroral Tracheoscopy H Tilley —p 1
Vincent s Angina of External Auditory Meatus Two Cases A Cheatle —p 6
Lupus of Upper Air Passage Report on 128 Cases R Webber —p 7
Sphenoidal Sinus Empyema in Cerebrospinal Meningitis F A Peters —p 11

Lupus of Upper Air Passages—Webber believes that in the vast majority of cases of lupus the condition first appears in the nose This was the case in 113 or 88 per cent of the 128 cases studied by him The disease began either on the anterior part of the nasal septum on the mucous membrane of the outer wall of the nose and close to its junction with the septum or on the anterior end of the inferior turbinate In a certain number of cases there was an extension of the disease to the mucosa of the hard and soft palate the pharynx or larynx without evidence of skin lesion but in sixty nine or 52 per cent of the cases skin involvement was noted on the face Glandular involvement occurred in forty eight cases the glands most frequently affected being those of the submaxillary chain As worthy of note Webber calls attention to the fact that in twelve of these cases there were present scars following operations for old submaxillary *gland trouble He infers that at the time of such operation* the disease within the nose causing the gland enlargement was present but overlooked One of Webber s patients has been under treatment for his lupus for thirty two years! In the treatment of lesions on the palate and alveolar process the best results were obtained from curettage and the application of lactic acid (75 per cent solution) or the electric cautery For lupus of the nose Pfannenstiel s treatment was distinctly helpful This consists in curettage and packing the nasal cavities with gauze soaked in hydrogen peroxid and sodium iodid internally In lupus of the epiglottis and the laryngeal mucosa removal of the diseased area with cutting forceps often has resulted in a cure or at least arrest of the disease The roentgen rays have been used largely in the past in th [illegible] of [illegible] d skin condition but at the [illegible] elected cases W [illegible] is selected [illegible]

Journal of Tropical Medicine and Hygiene, London

Jan 15, 1920 **23**, No 2

Etiology of Thrush A Castellani—p 17
*Case of Appendicitis in Native of Solomon Islands N Crichlow —p 22

Appendicitis in Solomon Islands.—According to Crichlow, appendicitis is a rare disease among the natives of the Solomon Islands During five years' experience among these natives he has seen only one case The case in question was a young missionary girl, who after being "Christianized" and "Europeanized" left off eating native foodstuffs and used to eat European foodstuffs Crichlow says he cannot help feeling that the European foodstuffs and her life in civilization played some part in the development of her attack of appendicitis, as appendicitis is unknown among the natives living solely on native foodstuffs

Medical Journal of Australia, Sydney

Jan 10 1920 **1**, No 2

Value of Cystoscope as Means of Diagnosis in Urology A S Roe —p 25
*Isolation of Organism Resembling Paratyphoid Group A Dean —p 27
*Case of Septicemic Anthrax Successfully Treated by Intravenous Serum Therapy E N Bateman N H Fairley—p 32
*Case of Rupture of Liver with Recovery L Doyle—p 32

Isolation of Organism Resembling Paratyphoid Group—From the urine and feces of five cases, no two of the same disease, Dean isolated an organism of the coli-typhoid group, which gave unusual biochemical reactions in the sugars The organism was smaller than *B typhosus*, being more of a coccobacillus in appearance It varies from 1 to 2 microns in length It stained easily with the usual anilin dyes, but was gram-negative The organism does not ferment dulcite, lactose, inulin or adonite, while, on the other hand it ferments saccharose, mannite, maltose, glucose, sorbite, raffinose and arabinose Its gas producing powers are considerable, particularly on saccharose, glucose and sorbite In arabinose and raffinose its action is changeable New cultures give acid and slight gas formation Some subcultures only give acid reaction Its action on litmus milk differs widely from the usual nonlactose fermenters For the first four days no change is noted, except that on the second day the alkalinity of the litmus milk is more exaggerated, the milk becoming intensely blue On the fifth day, the milk assumes an acid reaction This continues until the tenth day, when clotting of the milk occurs On the fifteenth day, the milk clears, but still retains its acid reaction In its agglutination reactions, this organism appears to be more closely linked to *B paratyphosus* B, than *B paratyphosus* A or *B typhosus*

Septicemic Anthrax Successfully Treated by Intravenous Serum Therapy—In the case reported by Bateman and Fairley, anthrax bacilli were demonstrated in quantity in the seropurulent discharge from the excised pustule, and on the fifth day of the disease, blood culture yielded a positive result The energetic administration of a large quantity of Sclavo's serum culminated within twenty-four hours in a critical fall of temperature, in a complete recovery from all toxic symptoms, and in a rapid amelioration of the local lesion itself

Traumatic Rupture of Liver—A boy, aged 8 years, sustained a rupture of the liver from being run over by an automobile The outstanding features of the case were the thoracic type of breathing the anxious expression of the child and the history of very severe trauma Micturition occurred shortly afterward and perfectly normal urine was voided A provisional diagnosis of a ruptured abdominal viscus was made by Doyle, and the evidence suggested that the lesion would be found in the spleen or the left lobe of the liver The general appearance of the child was indicative of an injury much more serious than what was compatible with the physical signs, and it was felt that it would be safer to explore the abdomen immediately rather than to wait Laparotomy was performed about two hours after admission On opening the peritoneum, blood stained fluid was encountered, and on retracting the abdominal wall, blood gushed up in startling quantity and with great rapidity The issue was traced to the right lobe of the liver There was a laceration on the anterior surface, commencing on the free edge, about 2 5 cm lateral to the gallbladder and running vertically for about 5 cm A long strip of iodoform gauze was packed as tightly as possible into the wound, and the end was brought out of the incision Four large abdominal packs were inserted between the liver and the diaphragm over the tear Transfusion of physiologic sodium chlorid solution and of the father's blood was done About seventy hours after operation, under light ether anesthesia, the packs were removed drains were inserted and the wound was closed again No further hemorrhage occurred The lesson Doyle draws from this is that when there is a possibility of a solid abdominal viscus being damaged, it is generally safer to explore at once rather than to await the classical symptoms of hemorrhage

South African Medical Record, Cape Town

Nov 8 1919 **17**, No 21

*Syphilis in South Africa A Pijper—p 323
Successful Treatment of Case of Sleeping Sickness W A Murray —p 326
Case of Urethral Hemorrhage H T Mursell—p 328

Syphilis in South Africa—In order to determine the prevalence of syphilis among the population of South Africa, Pijper subjected the blood serum of fifty persons born in South Africa and who apparently were healthy, to the Wassermann test Five were found to have acquired syphilis at some period of their existence In other words, according to these figures, 10 per cent of people born in South Africa, while apparently healthy, are infected with syphilis As none of these persons presented any symptoms, Pijper assumes that the disease was in the latent stage at the time of their examination It is a well known fact that only about 50 per cent of syphilitics will exhibit a positive Wassermann reaction, while in the latent stage Consequently, 20 per cent of the population of South Africa are infected with syphilis while seemingly enjoying good health If the percentage of latent cases is 20 per cent it may safely be assumed that the total percentage of persons infected with syphilis is somewhere between 20 and 25 per cent

Archives des Mal du Cœur, etc , Paris

September 1919 **12** No 9

*Diagnosis of Different Forms of Slow Pulse L Bard—p 385
*Phono Phlebograms J de Meyer and V Gallemaerts (Brussels) —p 395
*Digitalis in Tuberculosis with Low Blood Pressure R Burnand —p 419

Diagnosis of Slow Pulse by Inspection of Veins—Bard states that the diagnosis of the nature of bradysphygmia is usually made from the pulse tracings, but that this is possible merely from inspection of the jugular pulse wave He explains how the characteristics of the pulse wave permit the false bradycardias from coupled rhythm of the ventricles to be distinguished from true ventricular bradycardia, and further distinguish between the three varieties of the latter Thus in the majority of cases simple inspection of the venous pulse serves to differentiate the six different forms of slow pulse with regular rhythm

Phonophlebogram—De Meyer and Gallemaerts have continued their research published in 1914 on the graphic recording of the sounds that accompany the venous pulse, or at least those sounds which are perceptible on auscultation of the bulb of the jugular vein They use the Einthoven apparatus as for cardiography, and record a whole series of complex sounds from the auricle and ventricle systoles and the duration of the silences

Digitalis in Pulmonary Tuberculosis—Burnand is medical director of the Sanatorium populaire at Leysin, and he here expatiates on the advantages of prolonged administration of digitalis in pulmonary tuberculosis with abnormally low blood pressure He gives it irregularly, three days out of every ten, and has been convinced of the benefit therefrom in cases in which the myocardium still retains some of its vitality In the advanced stages the heart is unable to respond

Archives de Medecine des Enfants, Paris

January 1920 23 No 1

*Inherited Syphilis and Dystrophies V Hutinel and H Stevenin —p 5
Children s Asylums etc Should Be in the Country —J Camescasse —p 37
*Present Status of Nephritis in Children J Comby —p 41

Inherited Syphilis and Dystrophies —Hutinel and Stevenin review the whole field of special and general dystrophies from inherited syphilis, and emphasize its predilection for the liver, spleen brain and glands Its effect on the endocrine glands may be responsible for the development of such opposite conditions as dwarfism and giantism obesity and extreme leanness severe rachitis, chronic rheumatism, etc Treatment requires not only measures against syphilis but also the specific organotherapy for the endocrine gland involved They discuss the anatomic lesions for which the inherited syphilis is responsible, commenting in particular on the constant abnormal changes in the bone marrow lungs and heart The latter is very rarely directly affected by the syphilis, it seems to pass by the larger blood vessels and heart in children, and act merely on the smaller vessels They cite some cases of genital infantilism in which the development of the organs had not only been arrested but sclerosis had invaded them and crushed out the noble elements In other cases the organs undergo actual retrogression, this is particularly likely in the pluriglandular cases, especially those in which pituitary or thyroid disturbances predominate This clinical picture may be traced to other chronic infections and intoxications besides syphilis, but is more common with the latter as the morbid process is more apt to act on several of these glands at once This is not inevitable, however as some of the glands may become pathologic only secondarily to the first ones involved

Nephritis in Children —Comby reproduces nearly the whole of Hill's article on this subject in the *American Journal of Diseases of Children,* April, 1919 Comby comments on it that it "mirrors his own experience and ideas' 'Dr Hill," he adds, "has observed large numbers of cases and has observed them well His descriptions bear the stamp of truth"

Bulletin Medical, Paris

Jan 3 1920 34, No 1

Is Influenza an Autonomous Disease or an Epidemic of Pyosepticemia? M Sacorrafos —p 5
*Treatment of Acute Appendicitis A Gauchoix —p 7

Treatment of Acute Appendicitis —There has been considerable discussion lately of this subject in France apparently going over the ground that the surgeons of America traversed and left behind them, twenty years ago

Jan 10 1920 34 No 2

*Medical Treatment of Acute Amebic Disease of the Liver F Françon —p 21
*False Tuberculosis A Jacquemin and M Dubreuil —p 23

Medical Treatment of Acute Amebic Disease of the Liver —Françon emphasizes that the differential diagnosis of acute amebic hepatitis may be puzzling when there is associated malaria or the clinical picture resembles typhoid pleurisy gastro enteritis or cholecystitis Instances of each have been published Radioscopy is useful when the ameba cannot be detected in the stools, as happened in 15 of his 28 cases and in 16 of Ravaut s 21 Medical treatment is necessary even when an operation is contemplated In the 88 cases Françon has compiled emetin was given in 72 cases neo arsphenamin in 2, and both in 12 He regards the combination as most promising When exploratory puncture shows a young focus, with creamy reddish pus with well preserved leukocytes and no fatty degeneration the focus can usually become resorbed under medical measures alone But with dead pus and associated infection resorption is practically impossible and the focus will have to be mechanically cleared out secondary infection is not amenable to emetin treatment Medical measures are liable to fail also if the abscess is larger than a mandarin orange Recurrences can be treated with the medical measures anew The results in the 88 cases he has compiled fully confirm the efficacy of emetin in amebic disease of any kind It seems to be even more effectual when the focus is in the liver rather than in the bowel as is easily explained by the fact that the encysted forms of the ameba seldom get into the liver and superposed infection is the rule in the intestines

False Tuberculosis —Jacquemin and Dubreuil review their four years of sanatorium experiences in respect to false and factitious pulmonary tuberculosis They warn of the danger of incriminating tuberculosis when the patient has merely a bronchitis of nasal origin or exhibits the lung phenomena of mitral stenosis or the respiratory disturbances common in certain forms of liver disease or has interlobar pleurisy with a fistula into a bronchus There may be frequently recurring or continuous bronchitis when the nose is more or less stopped up Beware they say of mouth breathers examine the nose before the chest" Stones in the gallbladder may induce a pleural reaction pains in the shoulder tendency to hemorrhages and occasional waves of fever and general depression that may be mistaken for pulmonary tuberculosis especially when there is a cough The liver cough may deceptively simulate a lung cough and the right tracheobronchial glands may enlarge under the influence of the cholecystitis The laboratory findings may be the only clue in such cases An old interlobar pleurisy with a fistula into a bronchus is almost certain to be mistaken for pulmonary tuberculosis unless it is noticed that the fever occurs in the morning instead of the evening Another sign is a tendency to hippocratic fingers This they declare is always the expression of a pleural lesion It is a synonym they say, for interlobar pleurisy when it occurs early With pulmonary tuberculosis it is exceptional and tardy

As the demobilized men know that a sputum containing tubercle bacilli is like a government bond in insuring a certain income from the state all kinds of tricks are practiced to impose the diagnosis of pulmonary tuberculosis To avoid fraud, the man is examined on waking He is given two or three swallows of tea and is told to expectorate in the sterilized spit cup given him for the purpose His hands are carefully washed beforehand This method averts fraud but it is tedious and makes a number of examinations necessary Among the tricks described is the effort to show a rapid loss of weight the man at the first weighing artificially increases his weight

Bulletins de la Societe Medicale des Hôpitaux, Paris

Dec 12 1919 43 No 36

Edematous Rash from Neo Arsphenamin C Milian —p 1055
Epidemic of Probable Dengue in Troops in Near East Jagnier and O Couffon —p 1059
The Blood in Typhoid after Vaccination P Armand Delille and others —p 1063
Senile Wrinkled Skin in Children A Souques —p 1074
Injection of Air for Radioscopy P Emile Weil and Loiseleur —p 1077
Spirochetal Jaundice Lortat Jacob and Deglaire —p 1077
Pott s Disease in Woman of Seventy P Merklen and H Schaeffer —p 1079
*Gas Gangrene in Typhoid Weinberg and Françon —p 1084

Rash with Edema and Desquamation After Arsphenamin —The man in Milian s case developed the rash with edema of the eyelids etc resembling that with Bright s disease after he had been taking a long course of neo arsphenamin The urine was constantly normal except for urobilinuria Ramond has encountered a similar case the scarlatiniform eruption developing after the sixth injection The syphilis was of only a few weeks standing The edema in face arms and legs was extreme but there was no fever and the general condition and appetite kept good The man became transiently deaf in one ear probably from extension of the edema to the eustachian T tous rash persisted for about two mon up to
P d ma h
so

in the near East are given They suggest that paratyphoid bacilli seem to acquire greater virulence in subjects vaccinated against typhoid The authors comment that this seems to confirm the wisdom of polyvalent vaccination

Gerodermia in Children—Souques recalls another case of loose, flabby, corrugated, senile skin in a child Variot says that he has also encountered two cases of the kind

Roentgenography After Injection of Air—Weil and Loiseleur comment on the double advantage from injection of air after an effusion is evacuated It not only has a therapeutic action but aids materially in the diagnosis by rendering much more distinct the outlines of the pleura peritoneum or joint involved in the process

Spirochetal Jaundice—The case was typical in the robust young man, but there was in addition intense diffuse pruritus throughout the three weeks of the disease, and the urine contained bile salts, there was also bradycardia—all testifying, Lortat-Jacob says, to retention of the products elaborated by the kidney cells

Typhoid Gangrene—The typhoid in the young man ran a rather severe course without intestinal complications Two days after defervescence, symmetrical patches of gangrene developed on the thigh, they were arrested by a gas gangrene antiserum, but the patient died the third day Weinberg and Françon remark that if the stools or blood had been examined for anaerobes, the antiserum could have been used earlier, and the patient might have been saved

Paris Medical

Dec 27, 1919, 9, No 52

*The Mental Stomach Chavigny—p 497
*Treatment of Scoliosis *Joland*—p 499
*Treatment of Deafmutism G de Parrel—p 504
Diagnosis of Height of Lesion Causing Spinal Paraplegia J A Barre—p 507

Mental Dyspepsia—Chavigny declares that we digest with our brains as well as with our stomachs Gastric digestion is cerebral in large part, and cases of uncontrollable vomiting should be classed as mental dyspepsia and be treated by psychiatrists after gastro-intestinal specialists have diagnosed the case He remarks that psychiatrists will realize their finest successes in the *rééducation psychique de ces petits mentaux* Most of the patients who seek the stomach specialists cherish special fads in regard to eating whole wheat bread or other special diet, or going barefoot, or they have other odd hobbies It is remarkable, he exclaims how persons in this category often do well on a diet that a normal person might have difficulty in digesting He adds that the surgeon must beware of the operative adventures to which this class of patients often seek to entice him The recent tragic death of Pozzi and of Guinard should warn to refuse to these *petits alienes* with *troubles cenesthesiques* the operations for which they sometimes clamor Soldiers with this 'mental dyspepsia" should be given rapid mental retraining with gymnastic exercises and military discipline In one of the typical cases related the relapse under emotional stress or extra responsibility confirmed the psychic element involved The lack of any modification after a useless appendicectomy and the practically normal gastric chemistry testified that the uncontrollable vomiting in the previously healthy officer of 33 was of this nervous dyspepsia type but more psychic than anatomically nervous

Abbott's Method of Treating Scoliosis—Joland insists that Abbott's method for treatment of scoliosis is difficult and dangerous, and should not be attempted except by the few specialists who know the exact indications for it The general practitioner should realize that the great majority of scoliotics should not be abbotted'

Treatment of Deafmutism—De Parrel emphasizes that much can be done by physicians and parents to prepare deafmutes for the training in special institutions when they reach the age of 6 or 7 The young child should be given the benefit of hygiene, and of physiologic and surgical measures as the case demands to enable him to profit to the full from the specialist training later He declares, "absolute deafness is extremely rare, and if the vestiges of hearing are trained, this is an inestimable gain when specialist treatment is begun" Vision should also be trained to the utmost, as lip reading depends on the visual acuity De Parrel stresses the importance likewise of preparing the child for *receptivite pedagogique* so that it will be ready to learn This is the mother s task, but the physician is the indispensable technical adviser in this, and he should be well posted on what to advise De Parrel gives minute details of all these preliminary measures, especially those seeking to train in attention, in imitation, and in tactile perception

Jan 3 1920 **10**, No 1

*Recent Progress in Tuberculosis P Lereboullet and L Petit—p 1
*Menstrual Equivalents in the Tuberculous C Sabourin—p 11
*Miliary Forms of Pulmonary Tuberculosis A Pissavy—p 19
Influenza and Tuberculosis R Debre and P Jacquet—p 24
*Diagnosis of Pulmonary Tuberculosis P Ameuille—p 28
*Sunlight as Factor in Sterilization of Tuberculous Sputum Expectorated on the Street H Tecon—p 33

Tuberculosis in 1920—Lereboullet and Petit say that the prophylaxis and hygiene rather than the medical aspect of tuberculosis engrossed attention during 1919 Among the few communications on the medical features were those on the detection of the falsely labeled tuberculous Compulsory declaration of tuberculosis seems to have been postponed to the day when the declaration will ensure care and assistance for the tuberculous and his family Until this can be realized, *notification* serves merely to pile up statistics E Sergent has recently presented evidence that even tubercle bacilli in the sputum do not necessarily prove that the lesions are in process of evolution and also that the absence of tubercle bacilli is not unfailing testimony as to the nonactivity of the lesions Radiography throws no light on the age and evolution of the lesions, but a low arterial pressure is the rule in progressing cases A rise in temperature after muscular exercise does not necessarily mean tuberculosis, as unstable temperature may be observed under various other conditions, digestive cardiac, etc They agree with Sergent's dictum that there is no absolutely certain sign which tells whether the tuberculous process in a well appearing person is progressing or not He may have had hemoptysis on one occasion or a disquieting pleurisy, but has been in apparent health since Repeated examination, the fixity of the stethoscopic and radioscopic findings the character of the physical signs the attenuation of the myotonic reaction, the disappearance of the tenderness at the apex, the normal blood pressure, the intensity of the tuberculin reaction, stability of the temperature, and the repeatedly verified absence of tubercle bacilli from the sputum form a bundle of proofs on which the diagnosis can be based The whole secret lies in repeating the examinations and comparing the findings About 25 per cent of the tuberculous show roentgen shadows in the fissures between the lobes but few physicians ever examine for these *localisations scissurales*, and yet they are an important factor in recurring pleurisy The stethoscope reveals small and inconstant foci of dry rattling, or friction rales which associated with intercostal neuralgia and cough, aid in detecting these frequent and benign tuberculous lesions

Roger demonstrated ten years ago that the absence of albumin from the sputum excluded tuberculosis A positive albumin reaction is found in many other diseases, but Krongold has recently published evidence to the effect that the presence of peptone in the sputum is a reliable sign of tuberculosis as the tubercle bacilli belong to the small group of micro-organisms which by their proteolytic ferments split albumin into albumoses and peptones Jousset insists that tuberculosis as we know it, is merely the nodular form of infection by the tubercle bacillus The latter may induce a wide range of reactions and symptoms, and in both there is first an acute curable congestive stage in which serotherapy is promising (His method was described in these columns, Aug 17, 1918 p 605) The most important work on artificial pneumothorax during 1919 is stated to be that by Morelli of Montevideo (One of his recent communications was summarized here, July 19 1919 p 235) He draws the balance sheet with a most favorable balance to the credit of the procedure in appropriate cases Lalesque's review of his thirty years of treatment of tuberculosis at a seashore sanatorium is said to be another instructive contribution He emphasizes the importance of the moisture of the sea air in preventing congestion and hemoptysis

Menstrual Equivalents in the Tuberculous—Sabourin describes how the organism seeks to throw off the excess of endocrine secretions that accompany ovarian functioning and which have to be got rid of unless fecundation occurs They usually pass off in the menstrual hemorrhage, but in the tuberculous they are liable to make their influence felt first on the points of lesser resistance inducing congestion and possibly hemorrhage There may be fever congestion of the lungs with hemoptysis epistaxis bleeding from hemorrhoids, diarrhea excessive secretion in nose or bronchi or there may be menstrual vomiting of bile or transient congestion of the liver, or several of these combined

The Miliary Form of Pulmonary Tuberculosis—Pissavy explains why and how we must distinguish between the four forms of pulmonary tuberculosis the miliary the nodular the pneumonic, and the bronchitic or emphysematous form

Bacteriologic and Radiologic Tests in Pulmonary Tuberculosis—Ameuille says that he writes this article to convert the few physicians still left who fail to realize the paramount importance of bacteriologic and radiologic examination in every case of disease of the air passages

Sterilization by the Sun of Tubercle Bacilli in the Street.—Tecon reports research from Lausanne Switzerland the results of which demonstrate that sputa expectorated on the roadway under the usual conditions even when exposed to the sun in summer for from two to fifty-two hours that is during nine successive days induced the development of tuberculosis when guinea-pigs were inoculated from them All the inoculations gave positive results in one instance after eleven days of insolation When the sputa had been deposited on snow beaten down in the driveway the inoculations were all negative except in one instance in which the insolation had been only for thirteen hours The sterilizing action of the sunshine is thus practically negligible for clumps of sputum such as the tuberculous expectorate

Presse Medicale, Paris

Jan 10 1920 28 No 3

*Volvulus of Sigmoid Flexure E Forgue—p 21
*Electric Accidents with House Electric Current A Zimmern—p 25
*Protecting Coating for the Stomach F Pamond—p 27

Volvulus of Sigmoid Flexure—Forgue emphasizes that the onset is not so sudden with volvulus as with ileus of other cause, and the symptoms are not so violent from the first There is no vomiting, at least at first and it is not fecaloid while urine excretion continues almost normal—all testifying to the low location of the obstacle The twisted loop becomes distended with gases and percussion elicits a metallic resonance The segment of the colon involved, ballooned by the local meteorism shows an asymmetrical protrusion of the abdomen without peristaltic movements but these findings are soon masked by the general distention of the intestines He insists on the tendency to recurrence, the volvulus returned in 10 per cent of Kuhn's ninety-five cases, and in nearly 16 per cent of Filipowicz thirty-two cases Resection of the twisted loop has given a high mortality up to 40 per cent, and the technic is difficult Hence Forgue concludes this comprehensive study with the advice to be content with palliative measures such as colopexy simple exclusion of the loop by entero-anastomosis, or enterostomy when the obstruction creates a pressing danger

Mishaps from Domestic Electric Currents—Zimmern remarks that the lamentable accident which recently cost the life of a colleague has called attention anew to the dangers of electricity even with low-power currents Electrocution has occurred with a current of only 110 volts or even less Conditions in a bath are especially favorable for this the wet hands and the water clinging to the surface of the body provide exceptionally favorable conditions for conduction of the current if an electric light or electric heater or bell handle is touched Jellinek Lutaud and Fleury have reported cases of this kind young women being found dead in the bathtub with the metal chain or bulb in their hand He urges that electric appliances should no be allowed in bath rooms within reach of a person in the bathtub Weiss has reported a case in which a woman was killed in her kitchen as she was holding an electric light in one wet hand and turning on the water faucet with the other Another woman was killed as she was dusting with a wet cloth the current-distributing apparatus for the electric heating appliances A man was given an almost fatal shock when he took hold of the chandelier while holding in the other hand an electric light suspended by a wire Few realize the danger they incur in changing a bulb when the hands or the floor are wet If there should be some defect in the insulation a serious accident might result He adds that although he has never heard of an accident of the kind beyond slight shocks yet it is well to be warned of the danger in operating rooms from manipulating electric lights cautery etc. and touching at the same time the water faucet especially if the floor or walls are moist The danger from the electric current is for the heart and the effect is more pronounced when there is an element of surprise Sleep and general anesthesia attenuate the effect Rabbits in general anesthesia survive a current that kills at once normal rabbits Zimmern adds that a number of fatalities have been reported in Germany during the application of Kauffmann's method of treating neuroses giving a sudden sharp shock to the patient he forgets his previous ailments when thus 'torpedoed No explanation could be found in many of the cases for the fatality

Protecting Coating for the Stomach—Ramond gives instead of bismuth gelose made from agar and medicated at will with or without a mixture of gelatin It is taken like bismuth for the gastric dressing one large dose fasting or half an hour before meals and before retiring As the dissolved gelose attracts molds he sometimes used pulverized gelose 0 10 gm or a mixture of the same with 0 40 gm crushed gelatin This is thrown into a cup of boiling water flavored with peppermint or anise The boiling is continued for four or five minutes occasionally agitating then the fluid is filtered and it is drunk while still hot before it can coagulate Or 5 gm gelose can be boiled gently in a liter of water for twenty or thirty minutes then passed through fine gauze and before it cools 200 gm of some aromatic syrup are added A tablespoonful of the resulting jelly is dissolved in a cup of very hot water The patient must change his position to bring this fluid into contact with the inflamed parts of the stomach This gastric dressing answers the purpose almost if not quite as well as bismuth and sometimes surpasses it while it has none of the drawbacks of bismuth Ramond prefers to combine the two giving bismuth for ten days and then the gelose the rest of the month or mixing one twelfth of bismuth with the gelose for continuous use

Progres Medical, Paris

Dec 20 1919 34 No 51

*Injection of Oxygen to Aid Roentgenography L Mallet and H Baud—p 507
*Cancer of Uterine Cervix Potherat—p 508
Treatment of Scabies L Bory—p 509

Oxygen as Aid in Roentgenography—Mallet and Baud expatiate on the harmlessness of intraperitoneal insufflation of oxygen and on the instructive roentgen findings when this is done The oxygen is harmlessly resorbed in a day or two acute peritonitis seems to be the only contraindication

Cancer of Uterine Cervix—Potherat remarks that cancer on the vaginal aspect of the cervix resembles an epithelioma of the skin in many respects as the structure of the mucosa of the vagina is more like skin than the mucosa lining the uterus proper When operative removal was out of the question he has known of survivals for five seven and fourteen years after excision of the cancerous tissues down to the hard zone where the sharp curet was arrested and then the lesion [illegible] erized vigorously with a large nummular thermo

Schweizerische medizinische Wochenschrift, Basel

Jan 1 1920, **50**, No 1

*Pulse Findings with Volume Bolometry H Sahli—p 2
*Operations for Goiter G Hotz—p 6
Parallel Skin Tests with Human and Bovine Tuberculins Bernheim Karrer—p 10
*Laws Regulating the Multiformity of Symptoms De Montet—p 12

Research on the Pulse—Sahli has long insisted that determination of the blood pressure may be misleading unless it is accompanied by a knowledge of the volume of the pulse at the same time This he estimates by what he calls volume bolometry, and he here describes with illustrations his simple apparatus for the purpose and the numerous instructive findings with it

Goiter Operations—Hotz applies on both sides Kocher's method of resecting one half of the thyroid leaving behind only a small piece Hotz resects at one sitting nearly the whole of both halves leaving only enough on each side for physiologic purposes In his 400 operations of the kind, one young man died and necropsy revealed influenza There was only one other death in the series, this was in a woman of 72, and necropsy disclosed degeneration of the heart In three cases after-hemorrhage required opening of the wound The only deficiency symptoms observed afterward were in a young pregnant woman which subsided under parathyroid tablets and one case of mild symptoms of hypothyroidism The recurrent nerves were injured during the operation in 5 per cent of the first 200 cases, it is not known whether the resulting paralysis has subsided or not, to date The upper parathyroids are not molested with this technic, but the lower ones are endangered Other technics sparing more of the gland expose to the danger of recurrence, especially in the quite young Hotz' operation takes about an hour, but the patient leaves the hospital in about eleven days as the average He operates under local anesthesia, ligating the four thyroid arteries Over 12 per cent of the subjects were only 16 or less The goiter tissue removed in children averaged 103 gm He aims to remove all of the thyroid that he can, including the whole of the isthmus The rectus muscles are severed and from 60 to 120 ligatures are applied, and sometimes up to half are left in the wound

Multiformity of Symptoms in Response to Single Stimulus—De Montet argues that the relations between the various organs and functions are much more extensive than has hitherto been appreciated The multiformity of the symptoms from a uniform stimulation of the sole, for instance, is evidence of this, he says as he shows by the findings in a young infant and in 184 adults, seeking to deduce a general comprehensive law

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov 23 1919 **40**, *No 94*

*Hemostatic Band in Surgery U Nobili—p 1019

Hemostatic Band in Surgery—Nobili explains the advantages of partly blocking the circulation in the limb or fingers before operating on phlegmons, etc The aim is more to prevent infectious material being swept into the general circulation during the operation than to avert hemorrhage In addition to this precaution, Nobili makes a circular incision in the cellular tissue, all in sound tissue some distance above, in operating on a phlegmon This cuts off the spread of infectious material by way of the lymphatics while leaving the arteries intact

Revista Clinica, Medellin, Colombia

November 1919 2 No 14

The Human Body in Art Montoya y Florez—p 49
**Permanent Slow Pulse* L E Arango—p 84
*Cure of Skin Disease by Intercurrent Acute Infection J Restrepo A—p 86
*Code of Ethics—p 90

Slow Pulse—The pulse of 36 and the physical signs in the young man whose case is described by Arango suggested mitral insufficiency with stenosis of the aorta Considerable improvement was observed under 1 gm of sodium iodid daily, and sodium cacodylate with small doses of diuretics and laxatives

Cure of Dermatitis by Intercurrent Acute Infectious Disease—Restrepo relates that the ulcerating lesions on the legs had persisted for over three years, rebellious to all measures, but they disappeared completely during an attack of erysipelas The patient was a woman of 44, otherwise healthy In a second case of chronic dermatitis of the leg in a young man, it subsided likewise during intercurrent measles

Code of Ethics—This is a code presented by the Bogota Sociedad de Pediatria for consideration at the recent national medical congress Its special points have been summarized in these columns when published elsewhere

Revista Medica del Rosario

December *1919* **9**, No 5

*Angioneurotic Edema *Two Cases* D Staffieri—p *293*
*Case of Erythromelalgia A Boden—p 299
*Chronic Arsenic *Poisoning* from Drinking Water C Alvarez—p 311

Angioneurotic Edema—Staffieri summarizes the prevailing views in regard to Quincke's edema in the statement that it is characterized by abnormally exaggerated excitability of certain nerves which have control of the secretion and circulation of lymph This hyperexcitability is almost always constitutional the result of "dysendocrinia" (defective functioning of the endocrine glands), with thyroid insufficiency predominating This excitability is rendered manifest by influences of different kinds including some which behave like antigens inducing anaphylaxis In the first of his two cases, one side of the throat was affected but there was no inflammation The young man showed signs of thyroid insufficiency and hypogenitalism, and under thyroid treatment there has been no recurrence of the acute edema of the throat Atropin and a saline purge relieved the immediate symptoms it was the first and only attack to date In the other case there had been fleeting edema at various points during seven years In this latest attack the face alone was involved and the edema was so extreme that the eyelids could not be closed As usual the edema subsided completely in a few days The patient was a healthy married woman of 35 with two healthy children and negative Wassermann reaction, and there are no signs of derangement of any of the glands of internal secretion

Erythromelalgia—Boden describes what he says is the fourth case of Weir Mitchell s disease to be published in Argentina His patient is a bachelor of 34 with regular habits, healthy until the development of the erythromelalgia fourteen years ago Four years later symptoms of Raynaud s disease became superposed on the Weir Mitchell set of symptoms and the man wandered from hospital to hospital in search of a cure or at least some relief The left big toe had to be amputated about two years ago and the wound took seven months to heal Boden cites the three other cases of erythromelalgia in Argentina, and mentions some still unpublished cases and one reported from Santiago de Chile in 1914 The redness and neuralgic pains are not necessarily restricted to the foot In Cassirer s compilation of 67 cases both feet were affected in 24, both hands in 2, both hands and feet in 17, one foot in 9 and one hand in 4 Auche has published a case in which there was congestion also in the eyes and testicles during the attacks No acute or chronic infection or intoxication could be discovered to account for the disease in Boden's case, the patient being apparently free from acquired or inherited taint The only pathologic finding was atony and ptosis of the colon, and great improvement was realized with treatment addressed to the intestines, repose and dieting One case is on record in which Raynaud's disease subsided completely after resection of the entire colon, and this confirms the close connection between production of toxins in the sagging bowel and the vasomotor centers which regulate the circulation especially the trophosecretory neurons and those regulating the peripheral circulation If the intestinal disturbances do not yield to medical measures, colectomy should be considered This would break up the sympathetic-medulla reflex arc and remove the source of the toxins, and it is now under consideration in this case [In J J Ferro s 1919 inaugural thesis at the University of Lisbon, the recent international literature on erythromelalgia is exhaustively cited The thesis is reproduced in the *Medicina Contemporanea* **37** 380, 1919]

Chronic Arsenic Poisoning from Drinking Water—Alvarez publishes two further cases of what he calls Bell-Ville disease, as the first cases of this chronic intoxication from arsenic-containing water were observed at Bell-Ville in northern Argentina The new cases were in men of 25 and 62 and after abandoning the use of water from a certain well *both recovered completely from the severe clinical picture* they presented at first In the young man the liver was predominantly affected, and ascites required tapping twenty-one times In both the skin showed dark pigmentation, with scattered white and black dots

Mitteilungen aus der Med Fak der Univ zu Tokyo

Oct 11 1918 **20** No 3 German Edition

*Auricular Flutter S Yamada—p 308
*Carbohydrates and the Sugar Content of the Blood K Sakaguchi—p 345

Auricular Flutter—Yamada gives eight double-page tracings of the heart action in a man of 40 with nephritis and auricular flutter This flutter was up to 230 per minute and was not influenced by any measures and it never changed to fibrillation, not even under digitalis The ventricle could not keep pace with the auricle and the ratio altered under epinephrin to 3 1, and under atropin to 2 1

Carbohydrates and the Sugar Content of the Blood—Sakaguchi publishes here the first report of his research on the nature of diabetes He has been investigating the influence on the sugar in the blood of the amount kind and time of ingestion of food It is evident he says that the sugar content of the blood fluctuates even in normal conditions The range fasting in the healthy Japanese was found to be between 0 067 and 0 107 per cent , the average was 0 088 per cent There was always distinct hyperglycemia after ingestion of from *70 to 100 gm of glucose The hyperglycemia* reached its heighest point in twenty or thirty minutes, and then subsided, with one or two recurring waves

Berliner klinische Wochenschrift, Berlin

Oct 20 1919 **56** No 42

*Gonorrheal Arthritis H Klose—p 985
Antitoxin or Normal Horse Serum? M Klotz—p 987 Idem K Dorn—p 988
Effect on Rigor Mortis of the Lack of Postmortal Acid Production in the Muscles F Oppenheim and L Wacker—p 990
*Preservation of Erythrocytes After Death G Strassmann—p 994
*Damage of the Eye from Methyl Alcohol Poisoning W Bab—p 995
*Microsporia and Its Causative Agent W Fischer—p 996
Proposed Reforms in Medical Teaching O Lubarsch—p 998 Cont n

Gonorrheal Arthritis—During the war period Klose noted a woful increase in gonorrhea Before the war only 2 per cent of gonorrheal infections presented gonorrheal arthritis whereas at present Klose estimates the percentage at 10 per cent There are several causes personal indifference forced and improper treatment of the primary infection and weakened physical condition of patients due to the effects of war Since 1909, arthrotomy has been carried out systematically in the Universitätsklinik Frankfort-on-the-Main in certain severe types of gonorrheal arthritis Definite indications for operative intervention have been set up In a gonorrheal articular effusion arthrotomy is indicated if after one puncture, there is a second effusion accompanied by considerable stretching of the capsule together with pain and also when the condition of the joint indicates a *beginning subluxation* In phlegmonous and mixed types arthrotomy is performed (1) early, in the course of the first few days of a severe phlegmon, if the patient is plainly losing ground on account of pain and loss of sleep, (2) in general gonorrheal infections that arise from a joint infection (3) in severe primary infections, with genito urinary complications which render vigorous, conservative treatment of the joint infection more difficult, (4) in multiple joint infections that cannot all be treated at one time after careful selection of the joint for the arthrotomy, and (5) as a routine measure after three weeks, if during this time vigorous treatment has brought about no perceptible remission of the subjective symptoms in which case a beginning contracture of the joint caused by an effusion into the flexor tendons should be watched for and guarded against By means of roentgenoscopy any beginning shrinking of the capsule atrophy of parts of the joint or obliteration of joint outlines can be controlled The beneficial effects of arthrotomy are due to the getting rid of the toxic tissue fluid, and the relief from pressure afforded the tissues The pain subsides promptly, and the general condition begins to improve at once The case is thus shortened by many months Two or three weeks after the operation the medicomechanic treatment may begin However in 14 per cent of the knee joint infections thus treated by arthrotomy the injuries that the knee had already suffered proved to be irreparable and ankylosis was unavoidable

Preservation of Erythrocytes After Death—Contrary to the usual view that red blood corpuscles disintegrate within a few days, or at the latest within twenty to twenty-five days after death of the organism Strassmann found through examination of a blood effusion from the thoracic cavity of a cadaver exhumed seven months after death that unchanged well preserved red corpuscles were still present, whereas of the white corpuscles only lymphocytes were to be seen, and these were somewhat changed in appearance It appears, then that the white corpuscles do not resist decay as well as the erythrocytes

Loss of Vision from Methyl Alcohol Poisoning—In view *of the increasing number of cases of* methyl alcohol poisoning Bab recommends that, in case it does not seem feasible to prohibit the manufacture of wood alcohol it might be given a disagreeable taste by the addition of small quantities of some harmless substance This would perhaps be the best way to lessen the danger of its continued use as a beverage He describes four cases demonstrating the pronounced degenerative processes from the action of the methyl alcohol

Microsporia and Its Causative Agent—Fischer describes an epidemic of microsporia in Berlin children It affected mainly schools orphan asylums, and public institutions The causative agent in similar epidemics in the past had been *Microsporon audouini* but in the present epidemic it seemed to be *Microsporon depauperatum* a representative of the human type of the microsporon group that had been hitherto unknown in Germany The clinical aspects of the disease were somewhat different from the usual picture of micro*sporia in man in that the inflammation was more pronounced* An abscess developed in four of the 200 cases

Deutsche medizinische Wochenschrift, Berlin

Oct 30 1919 **45** No 44

*Acute Puerperal Inversion of the Uterus R T von Jaschke—p 1209
Atypical Erythema Nodosum G Denecke—p 1211
Vacuolation in Leukocytes H Meyer Estorf—p 1213
Treatment of Old Ulcerating Wounds Durig—p 1215
A Peculiar Epidemic of Meningitis Paetsch—p 1217
Effect of Epinephrin on Blood Pressure J Bauer—p 1217 *Reply* K Dresel—p 1218
Prophylactic Injections of Friedmann s Tuberculosis Remedy Brunecke—p 1218
Glycerin as Vehicle for Certain Stains Hollborn—p 1219
Proposed Reforms in Medical Teaching J Schwalbe—p 1220 Cont n

Acute Puerperal Inversion of the Uterus—Von Jaschke reiterates that although partial or complete inversion of the uterus is one of the most dangerous complications associated with childbirth yet prompt and proper treatment materially *lessens the danger Although mismanagement is generally* responsible partial inversions might possibly be caused by traction or relaxation of circumscribed portions of the uterus wall and contraction of adjoining portions He thinks that in England and America too much weight is attached to local relaxation and unequal contraction Zangemeister found on examination of the literature that in 98 per cent of the cases traction played a part Traction occurs almost always through the medium of the placenta part or all of which has remained in the uterus Occasionally however a submucous myoma may be a contributing factor If relaxation of the uterine wall is pronounced the placenta may exert traction by the force of its own weight or a short cord may cause a partial inversion during expulsion of the child Inversion is favored without doubt by the fundal site and partial adherence of the placenta Pressure on the relaxed uterus from above as is applied in Crede s maneuver, produces the same effect as downward traction No matter how the inversion may have been caused, therapy demands that puerperal inversion of the uterus be reduced at once Von Jaschke admits, however, that Zangemeister and others oppose this view, maintaining that the shock of reduction, added to the shock caused by inversion, may prove serious Even in the presence of severe hemorrhage, Zangemeister will not admit of immediate reposition, but endeavors to stop the hemorrhage by means of an elastic bandage fastened about the inverted organ Von Jaschke cannot accept this teaching and thinks that the bandaging causes a much greater shock than reduction under profound anesthesia He regards the danger from infection as so great that its avoidance must be considered the main issue However, if infection has already set in, he agrees with Zangemeister that the reduction of the inversion is contraindicated and that extirpation of the inverted organ, together with drainage of the Douglas pouch, must be done But in fresh or recent cases infection is rare, and radical treatment should not be considered unless the inversion has existed at least six hours He finds that profound anesthesia reduces to a minimum the shock manifestations sometimes occurring during reposition of the uterus As a prophylactic measure or as a means of combating an already present shock, 2 c c of camphor and from 0 01 to 0 02 gm of morphin will prove beneficial The technic of the reposition is a delicate one Brusk procedure is out of place There should be no forcing of the organ through Bandl s ring spasm of which can practically always be suppressed under profound anesthesia aided by the effect of the morphin Any remaining portions of the placenta may easily be, and should be removed before the uterus is reverted The manual technic follows With the thumb, middle finger and index held in a cone shape, with the tips of the fingers he endeavors very gently to make an upward indentation at the lowest point of the inverted uterus Sometimes it may be necessary to try another spot near by When such a dent is produced the pressure is slowly increased and the finger tips are gradually spread apart so as to cover a larger area Care must be exercised, however, not to make the indentation broader than Bandl s ring If this caution is not heeded, failure will result and operators will be inclined to err and to ascribe their failure to a persistent spasm of Bandl's ring However, after the indented portion has been carried past the cervical ring the fingers may be spread out wider The balance of the operation is usually easy The still inverted portions are gradually drawn up by the upward rise of the fundus If a high degree of atony persists this will make reinversion more difficult Pressure of the fingers must then be all the more even and steady In such cases it will be found helpful as soon as the reinverted portion has been brought up to Bandl s ring to push gauze into the uterus alongside of the operating hand Then as the reinversion proceeds the gauze tampon is increased, which will check the hemorrhage, incite contraction and prevent a renewed spontaneous inversion of the uterus Tamponade of the vagina with wide gauze inserted in separate layers and tightly pressed together (the Kussmaul tamponade) will insure better results Von Jaschke admits that there are a few cases in which it may be necessary to resort to instruments, but advises that the manual method be tried first

Atypical Erythema Nodosum —Within a few weeks of each other, five young women whose ages ranged from 16 to 22 presented themselves at the University Clinic in Greifswald with similar skin lesions Denecke states that on the front and outer side of the lower third of the legs there were red and reddish blue spots just above the ankle The skin was smooth and shiny A handbreadth area was swollen Suction caused the redness to disappear and leave a pale ground The spots were irregular, clearly circumscribed and presented a mottled appearance The skin was firmly attached to the substratum and felt hard Finger pressure was slightly painful and left no indentation In fact, it was difficult to make any impression on the skin The skin when compressed into folds showed a very fine wrinkling All five patients presented heart symptoms pointing to a pathologic condition of the endocardium, and all had rheumatic pains in the ankles and some in other joints The differential diagnosis of the condition presented some difficulty Denecke mentions half a dozen dermatoses that were considered and excluded before repeated palpation of the affected area led him to his final diagnosis of chronic, recurring erythema nodosum The differentiation from erythema exudativum multiforme was not so difficult because the appearance of the dermatosis did not rapidly change from day to day, there were no outlying lesions no patches with elevated edges, no tubercles no blisters, no scales nor crusts Sodium salicylate, 5 gm daily, was the principal therapeutic agent He comments on the coincidence of five cases all in girls and all localized in the same region the area on the leg between the skirt and the shoe, which is most exposed to wind and weather, and the fact that all were in domestic service, obliged to be much on their feet

Treatment of Old Ulcerating Wounds —Wounds with extensive loss of tissue may refuse to heal, or, healing partially they break down again and ulcerate Durig had found healing of such wounds difficult and after fruitless attempts to heal them it became necessary to cover them with a transplant The cause of the condition no doubt is that the central portions of the wound are not adequately supplied with blood The scar tissue becomes more fibrous The blood vessels grow smaller The scar is deprived of fluid It shrinks and is put on the stretch The color changes from red to white and finally in its center an ulcerous condition is set up The indications are for an improvement in the blood supply It occurred to Durig that a procedure used years ago for the treatment of phagedenic ulcer would be helpful in treating ulcerating scar wounds, namely, lavage with a hot solution of potassium permanganate Durig uses for this purpose an irrigation apparatus at an elevation of 2 meters The port wine red solution of potassium permanganate has a temperature of 40 C The glass end-piece is fused leaving only a pinhead opening so that the wound may be sprayed with a fine, cutting stream Two liters of the solution are needed for a ten minute lavage which is done daily After the lavage a dry dressing is applied The viscous coating of the wound is often replaced in a few days by healthy granulations and epithelization beginning with the edge of the wound, soon covers the whole surface Even though because of the extent of the wound a transplant should be necessary, Durig finds this preliminary lavage treatment beneficial as the wound is well cleansed and its size materially reduced

Effect of Epinephrin on Blood Pressure —Bauer has found that occasionally the subcutaneous administration of epinephrin in man causes a primary and not inconsiderable lowering of blood pressure that is not soon followed by a rise of pressure

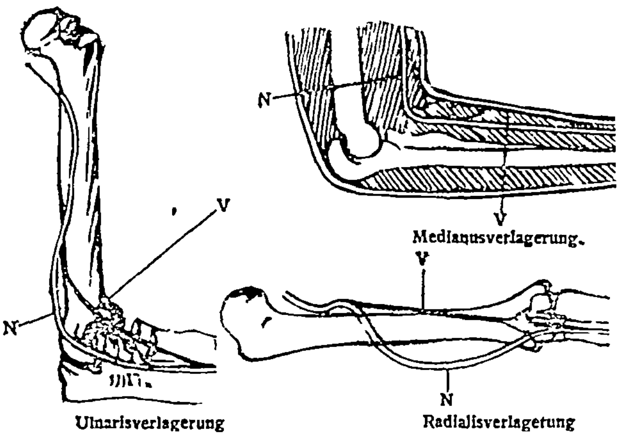
Munchener medizinische Wochenschrift, Munich

Oct 31 1919, 66 No 44

Otogenous Pyemia and Sepsis B Heine —p 1251
Nerve Shifting and Joint Adjustment in Relation to Primary Nerve Suturing M Brandes and C Meyer —p 1256
Influence of Thermopenetration on Carcinomatous Tissue A Theilhaber —p 1260
Relations Between Influenza and Tuberculosis Kayser Petersen —p 1261
Treatment of Influenzal Empyema Bettina Neuer —p 1264
Mortality from Tuberculosis During the War G B Gruber —p 1266
Glaucoma in Relation to Exudative Diathesis Rohr —p 1266
Nitrobenzene Poisoning Wandel —p 1267
Therapy of Malignant Edema and Sepsis W Hancken —p 1268

Otogenous Pyemia and Sepsis —The pyemic and septic forms of otogenous infectious disease may sometimes be differentiated although frequently, Heine states they overlap Remittent and intermittent fever (with or without chills) and metastases characterize the pyemic form For the septic form, continuous fever signs of poisoning (prostration mental disturbance, delirium) and a stormy course are significant In the septic form we may assume the presence of increasing numbers of pyogenic bacteria in the blood (bacteremia) resulting in a poisoning of the organism by their toxins, or there may be a pure toxinemia This toxinemia does not necessarily have its sole starting point in the original focus, as in diphtheria Kümmel has shown that in other organs of the body (brain, kidneys) secondary bacterial foci may have formed, which maintain the supply of toxins Heine admits that exceptionally, this general infection may occur without involvement of the transverse or lateral sinus but states that such cases are so rare that they may be safely left out of account, so far as indications for operative intervention are concerned In one case he felt compelled to assume that the source of the pyemic fever was the suppuration in the mastoid process itself He finds that most frequently the inflammatory process is conveyed to the sinus wall through contact with adjoining diseased bone In some cases there is disintegration of bone tissue, and granulations form and shoot up along the sinus wall resulting in an extradural abscess or suppuration around the sinus He agrees with Haymann that mere inflammation of the sinus wall does not cause a thrombus in the sinus and with Lubarsch that changes in the blood and retardation of the blood stream through the affected area are necessary accessory factors The formation of a thrombus is gradual and it arises ordinarily from a parietal coagulum An obstructive thrombus is seldom formed at the start Heine describes his mode of treatment in detail, but warns that every case must be considered on its own merits and treated accordingly for if one were to follow any single plan of treatment in all cases more harm than good would often be done

Nerve Shifting and Joint Adjustment in Relation to Primary Nerve Suturing—The adjustment of joints so as to make a cut off and save distance for nerve trunks Brandes and Meyer remark has been done for some time but the shifting of the position of nerves (nervenverlagerung) in order to accomplish a similar purpose dates back to Wrede who in 1916 published in the *Zentralblatt fur Chirurgie* his article on Nervenverlagerung zur Erzwingung einer direkten Nervennaht' The authors give an enthusiastic account of what Wrede has accomplished by his nerve shifting procedure For example in a 10 5 cm defect of the median nerve the most that could be gained by adjustment of the elbow and wrist joints was 5 cm , but when the proximal nerve stump was removed from its bed in the pronator teres muscle and was embedded on this muscle and the bicipital fascia as shown in the accompanying illustration 5 cm more were gained so that the nerve could be sutured without any tension whatever The authors aroused by Wrede s success to make further research have made extensive investigations on the cadaver and here publish their results They have determined the maximal defects that various nerves may have and still permit the stumps to be brought together for primary suturing by means of joint adjustment and nerve shifting They also give details as to how various joints should be adjusted in order to provide for shortening the course of different nerve trunks



Ulnarisverlagerung Medianusverlagerung. Radialisverlagetung

N normal position of nerve *V* position of nerve after shifting

Therapie der Gegenwart, Berlin

October 1919 **60** No 10

*Dilatation of the Heart with Thyroid Insufficiency H Zondek —p 361
*Artificial Esophagus C Hirschmann —p 368
Sycosis M Michael —p 373
Testing for Eyeglasses Fehr —p 377 Cont n
Treatment of Intestinal Disease G Klemperer and L Duhner —p 82
Vaccine Therapy of Furunculosis H Schirokauer —p 397
Treatment of Tuberculosis with Living Turtle Tubercle Bacilli F Baum —p 398

Dilatation of the Heart with Thyroid Insufficiency—Zondek warns that dilatation of the heart with hypothyroidism is of common occurrence and it does not yield to digitalis Neither the size of the heart nor the diuresis nor the tendency to cyanosis shows any modification under the usual heart tonics but a prompt change for the better is apparent when the deficit in thyroid secretion is made up by thyroid treatment All the subjective and objective pathologic findings retrogress he says and in two months the outline of the heart usually has returned to normal even when the dilatation had been extreme The heart disturbances with thyroid insufficiency are characterized by sluggish action and by the relative insignificance of the disturbances in comparison with the degree of dilatation Electrocardiography serves as a useful guide when to suspend the treatment When the high thyroid peak has dropped back to normal the treatment can be resumed

An Artificial Esophagus—Hirschmann reports that the outcome in his three cases was so excellent that he does not hesitate to commend his technic for the systematic relief of absolutely impermeable stenosis of the esophagus One young woman is in the best of health now a year and a half after the operation The various steps are illustrated A short loop of the jejunum is moved to a bed under the skin of the chest, and one end is implanted in the stomach Then the skin is incised to the right and left of the median line these parallel incisions 6 or 7 cm apart The inner lips of the two incisions are turned back and sutured together thus forming a skin-lined tunnel from throat to stomach The stump of the esophagus is brought out through the skin in the neck and sutured to the upper end of the skin-lined tunnel Then the lower end of the latter is sutured to the short segment of the bowel loop that has been brought up to bridge the gap between the skin tunnel and the stomach *In all the steps of the operation he is careful to leave sufficient* blood supply for all parts concerned

Zentralblatt fur Chirurgie, Leipzig

Jan 3 1920 **47** No 1

Nearthrosis A Bier —p 2
Means to Facilitate Thyroidectomy M Claessen —p 9
Extraperitoneal Laparotomy for Kidney Tumor J J Stutzin —p 10

Nearthrosis—Bier tries to facilitate the formation of the new bursa in the new joint by injecting gelatin or sodium chlorid solution or inducing accumulation of serum in the *joint cavity or leaving the extravasated blood He gives* case reports with each of these methods None of the methods gives constantly good results and infection is liable with each of them In two cases the making of the new joint was followed by fatal infection, in one with an interposed flap of fascia 250 c c of salt solution had been injected The danger of infection is particularly great when the knee is flexed He now fills the cavity after the resection with 5 per cent tincture of iodin and cleans it out again after a time and then sutures He has thus treated fourteen joints including twelve in which the ankylosis resulted from a suppurative process The iodin induces an acute irritation which thus disinfects the cavity by the natural biologic means All healed by primary intention The after treatment is more difficult than the operation He has found that the muscles may promptly recuperate function when they have long been useless on account of ankylosis In one case the quadriceps rapidly recuperated after twenty years of disuse from ankylosis due to a tuberculous process in the knee The extensors are much more apt to atrophy than the flexors He is convinced further that nervous and toxic influences may be responsible for the atrophy of muscles, more than any other factors Active exercise is the best means to strengthen a weakened muscle He only exceptionally applied force to mobilize a joint, but this is often very useful in correcting a nearthrosis that has developed ankylosis

Thyroidectomy — Claessen advises passing stout silk around behind the thyroid to lift it up with He does not pass the silk through the thyroid tissue as this might entail hemorrhage When these threads are to be left behind as with partial thyroidectomy, he uses catgut instead of silk Another use for these catgut encircling slings is to tie off and thus obliterate in time the remaining portion of the thyroid after partial removal A series of catgut threads were thus tied around the stump, and it harmlessly shriveled up under them in one case described.

Zentralblatt fur Gynakologie, Leipzig

Jan 3 1920 **44**, No 1

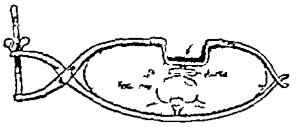
*Prophylaxis of Thrombosis H Fehling —p 1
*Dangers of Transfusion in Obstetrics E Opitz —p 6
*Obstetric Hemostasis E Sehrt —p 8 Idem C J Gauss —p 10
Treatment of Gonorrhea in the Female H Brauns —p 16

Prophylaxis of Thrombosis—Fehling declares that we are not so powerless as formerly supposed against thrombosis and embolism Getting the patients up early after childbirth and operations is a great advance, and systematic exercising is also of great aid in prevention Even more important is the systematic strengthening of the heart with tonics before and immediately afterward, and he cites figures showing the great improvement in his service since this has been done He introduced this heart treatment in 1910 Before that he had had thrombosis in 5 per cent and embolism in 1 25 per cent in his myomectomy cases, 7 5 and 5 5 per cent, respectively in his cancer cases and 4 and 0 7 per cent in his operations on the adnexa The corresponding figures since 1910 have been 3 1 per cent thrombosis and 0 embolism, 2 1 thrombosis and 1 embolism and 1 4 per cent thrombosis and 0 5 per cent embolism Other prophylactic measures are the bandaging of varicose veins before an operation This prevents their becoming aggravated Massage might aid in curing them or compressed air massage, or obliteration of the varicose veins in the leg by injection of 1 or 2 c c of a 1 per cent solution of mercuric chlorid with equal parts of a 1 per cent sodium chlorid solution, injected into the vein avoiding the most dilated portion and repeating as indicated The patient can go about his business as usual, reclining only when there is a sensation of oppression Zirn and Linser reported in 1919 that this procedure had been successfully applied in 800 cases without harm Even with already developed ascending thrombosis, ligation of the vein and excision of the segment might be tried Although embolism in the saphena is rare, yet this justifies the procedure Haward has suggested intravenous injection of a 0 5 per cent solution of citric acid to reduce the tendency to coagulation Chantemesse for the same purpose has given 15 or 18 gm citric acid in the course of two or three days before myomectomy Fehling says that if this does not injure the stomach it seems promising Riemann and Wolf recommend injection of 1 gm hirudin repeated in four hours, Kuhn injects sugar solution by the vein experiments on rabbits seem to promise success with this His formula is 4 gm dextrose, 0 04 gm sodium saccharate, 0 85 sodium chlorid and 100 c c distilled water injecting 1 or 2 gm by the vein If there is already thrombosis before the laparotomy or if the subject has previously had embolism, Fehling advises that some of these measures might be tried

Dangers of Blood Transfusion in Obstetrics—Opitz has had unfavorable experiences with reinfusion of the blood taken from the abdominal cavity after tubal abortion In future he will simply leave the blood in the abdominal cavity unmolested No harm from this was ever observed in the numerous cases in which this was done in Olshausen's service The blood seemed to be always rapidly resorbed The disturbances from autolysis of the blood are fewer and less than those with reinfusion of the blood after it has been cleared out In two cases in which citrated blood from another person was transfused, serious disturbances followed, fatal in one instance It was afterwards found that the donor's blood had a strong agglutinating action on the other blood

To Shut Off the Blood from the Lower Half of the Body—The Journal described at the time Momburg's method of hemostasis by constricting the body at the waist line, winding a rubber tube around the abdomen Sehrt describes here a contrivance which accomplishes this in a more scientific manner by pressure on the abdominal aorta alone The instrument is something like a pair of compasses It encircles the abdomen, and a square jog in one branch fits down over the aorta and presses it back against the spine, flattening it out and closing the lumen The compression is regulated and maintained with a thumbscrew and it can thus be very gently and gradually applied and removed, and the resulting ischemia is complete The device can be applied with the left hand and without moving the patient, the straight branch being easily slipped under the back The instrument is light and takes up very little space in the physician's bag, and the testimony on all sides is said to be favorable

Gauss endorses the advantages of a device of the kind, and states that the resulting ischemia has always caused strong contractions in the uterus in his clinical experience with an instrument he devised for the purpose some years ago, with a pad device He adds that Sehrt's instrument is much lighter and simpler, and deserves the preference if it fulfils its promise He even advises its prophylactic use when there is reason to anticipate too much hemorrhage, and he has successfully applied it in eleven cases as he describes He queries whether it might not be applied as a routine measure to ward off the natural loss of blood at childbirth



Zentralblatt fur innere Medizin, Leipzig

Jan 3 1920 **41**, No 1

*Vaccination Against Tuberculosis A Strubell —p 1

Vaccination Against Tuberculosis—Strubell says that Maragliano's experience with thousands of children whom he vaccinated against tuberculosis has proved the value of preventive vaccination, but his method of applying it by the Jenner scarification technic is behind the times, and exposes to the danger of secondary infection Strubell is chief of the veterinary college and he has been applying on a large scale a vaccine of his own preparation, for man and cattle, which he has patented

Ugeskrift for Læger, Copenhagen

Jan 15 1920 **82**, No 3

*Influenzal Empyema Anna Sabroe —p 63
*Case of Lethargic Encephalitis G R Ulrich —p 71

Empyema—Sabroe relates that 94 cases of empyema as a sequel of influenza were treated at the public hospital, with 17 deaths, but the general infection rather than the empyema was responsible for all but 7 of the fatalities Operative treatment was necessary in 90 of the cases aspirating and draining requiring from thirty to 169 days of hospital care, with an average of sixty-seven days The influenzal empyema was capricious in its course, and required constant oversight, the temperature running up at times but the general condition kept surprisingly good throughout as a rule

Lethargic Encephalitis—Ulrich calls attention to the stormy onset and brief course of the disease in the young man and the total lack of paresis of any kind Total unconsciousness and convulsions seemed to be the only manifestations of the disease and recovery was complete in less than two weeks with no memory of the twelve days of the sickness

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ACIDOSIS IN NEPHRITIS [*]

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NEW YORK

The subject of acidosis in nephritis is one of such practical importance that it deserves emphasis from a clinical standpoint Many significant observations bearing on this general topic have accumulated during the last ten years In the study of this question, Van Slyke's simple method[1] of determining the alkali reserve of the body with the aid of the carbon dioxid combining power of the blood has been of great assistance We have utilized this method to excellent advantage since Van Syke's preliminary publication[2] in 1915

The term acidosis, although originally coined by Naunyn to apply to the ketosis of diabetes, has come to be used in a much broader sense with the development of our knowledge of this subject Obviously, acidosis may result either from an abnormal formation of acid substances or, as in nephritis, from a decreased elimination of normally formed substances Under conditions of health, the blood is uniformly maintained at a constant slightly alkaline reaction through the influence of the bicarbonate, phosphate and proteins of the blood

The carbonates of the blood have been called by L J Henderson the first line of defense Increased pulmonary ventilation, as occurs with dyspnea or hyperpnea, serves to increase the excretion of carbon dioxid, thus keeping the reaction of the blood within normal limits In conditions of acidosis, other acids may combine with the bicarbonate, robbing the body of its alkali reserve Under ordinary conditions, however, the kidneys are able to secrete an acid urine from a nearly neutral blood through the medium of acid phosphate, constituting a second means of defense From the investigations of Marriott and Howland[3] it appears that it is just this factor which breaks down in the acidosis of nephritis They have found the inorganic phosphates of the blood serum increased to many times the normal in nephritic acidosis, although nephritic cases without acidosis did not show this change Other means of defense against acidosis are the blood and body proteins, which are able to take up considerable amounts of acids without marked change in reaction, and the ability to form alkali, i e , ammonia The latter factor is of considerable importance in the acidosis of such conditions as diabetes and pernicious vomiting, but apparently of little significance in nephritis[4]

DETERMINATION OF DEGREE OF ACIDOSIS

A number of different criteria have been suggested as a measure of the degree of acidosis (1) lowered carbon dioxid combining power of the blood, (2) lowered alveolar carbon dioxid tension, (3) decreased affinity of hemoglobin for oxygen, (4) reduced alkalinity of the blood, (5) increased hydrogen ion concentration of the blood, (6) increased intensity of urinary acidity (hydrogen ion concentration), and (7) the retention of alkali by the body in cases in which the kidney is capable of rapidly excreting an excess of alkali

All of these have furnished valuable information in the development of our knowledge of this subject, but the first, second and seventh have yielded information of special clinical value Although the carbon dioxid tension of the alveolar air may readily be ascertained at the bedside with Marriott's simple apparatus,[5] the information is not as reliable as the carbon dioxid combining power of the blood determined by the Van Slyke method Nevertheless, the method of Marriott may be of great clinical assistance That the bicarbonate depletion may roughly be determined by administration of sodium bicarbonate has been pointed out by Sellards,[6] and by Palmer and Henderson,[7] and this method has been in practical use for several years Normally from 5 to 10 gm of sodium bicarbonate are sufficient to change the reaction of the urine, but in the acidosis of advanced nephritis the deficiency may amount in exceptional instances to as much as 100 gm of bicarbonate or more

Palmer and Van Slyke[8] have recently studied this question rather carefully in connection with the carbon dioxid combining power of the blood They found that in most pathologic cases the urine did not become more alkaline than blood until a higher plasma bicarbonate had been reached than in normal individuals This would result in the giving of unnecessary and possibly injurious amounts of bicarbonate, if the administration was continued until the urine turned alkaline, as has been the usual clinical procedure The bicarbonate retention may therefore indicate a much more severe acidosis than actually exists Palmer and Van Slyke advise carefully controlling the therapeutic use of sodium bicarbonate They have calculated that taking 42 pounds as the *unit of weight*, 0 5 gm of sodium bicarbonate will raise the plasma carbon dioxid 1 per cent by volume In view of this, it is possible to calculate the amount of alkali required to restore the plasma bicarbonate to normal

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[*] From the Department of Medicine and the Laboratory of Pathological Chemistry New York Post Graduate Medical School and Hospital

[1] Van Slyke D D J Biol Chem **30** 347 (June) 1917 Van Slyke D D, and Cullen G E Ibid p 289

[2] Van Slyke D D Stillman Edgar and Cullen G E Proc Soc Exper Biol & Med **12** 165 (April) 1915

[3] Marriott W McK, and Howland John Phosphate Retention as a Factor in the Production of Acidosis in Nephritis Arch Int Med **18** 708 (Nov) 1916

[4] Marriott W McK and Howland John The Influence of Acid Phosphate on the Elimination of Ammonia in the Urine Arch Int Med **22** 477 (Oct) 1918

[5] Marriott W McK The Determination of Alveolar Carbon Dioxid Tension by a Simple Method J A M A **66** 1594 (May 20) 1916

[6] Sellard A W Bull Johns Hopkins Hosp **25** 141 1914

[7] Palmer W W and Henderson L J Clin [illegible] Acid Base Equilibrium and the Nature of Acidosis Arc [illegible] 13 (Aug) 1913 A Study of the Several Factors [illegible] in Nephritis ibid **16** 109 (July) 1915

[8] Palmer W W and Van Slyke D D [illegible] (Dec) 1917

TABLE 1—ACIDOSIS IN FATAL CASES OF NEPHRITIS WITH MARKED NITROGEN RETENTION

Case	Age	Sex*	CO Combining Power	Sodium Bicarbonate Administration		Other Blood Analyses		Period of Observations before Death
			C c per 100	Days before Death	Remarks	Creatinin Mg 100 C c	Urea N per 100 C c	
1 F M	39	♂	12	0	No alkali	28 6	186	3 weeks
2 A C	63	♂	29	9	No alkali	22 5	106	2 weeks
3 P J	43	♂	31	0	No alkali operation	20 0	209	4 days
4 L R	25	♀	36	0	6 gm for 8 days pneumonia	20 0	108	3 weeks
5 F D	53	♀	27	14	Receiving alkali	19 8	114	2 weeks
6 N W	19	♀	31	9	No alkali until after test	19 2	164	2 weeks
7 I L	20	♀	34	1	No alkali	18 9	141	2 weeks
8 R A	30	♀	38	3	No alkali operation	18 7	68	1 week
9 M M	40	♀	23	1	No alkali until after test	18 3	246	2 days
10 F P	34	♀	32	7	Little alkali CO four days previously	17 6	8	2 weeks
11 A N	27	♀	12	3	No alkali until after test	17 0	148	2½ months
12 I H	29	♂	4	1	Alkali previous day	14 7	77	2 weeks
13 M P	25	♂	31	10	No alkali	14 4	141	2 weeks
14 A M	44	♂	32	60	Received alkali subsequently	13 5	147	2 months
15 F P	40	♀	38	24	Died outside hospital	12 7	116	3 months
16 A I	52	♀	32	4	No alkali	12 6	78	5 days
17 M N	46	♂	31	13	No alkali	12 6	210	3 months
18 W W	30	♂	22	60	Alkali discontinued for some time	12 5	76	5 months
19 J B	34	♂	32	240	Received 6 gm daily for 10 days	12 5	110	11 months
20 F R	32	♂	39	6	Receiving colonic irrigation of 2% alkali	11 5	102	1 week

* In this column ♂ indicates male and ♀ female

The normal range for the carbon dioxid combining power of the blood in the adult, as shown by Van Slyke, Stillman and Cullen[9] is from 55 to 75 c c of carbon dioxid per hundred c c of plasma

OBSERVATIONS ON ACIDOSIS IN NEPHRITIS

In Table 1 are given observations in twenty fatal cases of nephritis with marked nitrogen retention These cases were the first twenty in a series of 100 having high figures for the blood creatinin[10] in which observations of the plasma carbon dioxid had been obtained It will be noted that without exception these cases show a pronounced acidosis, and in two instances, Cases 1 and 11 (compare also Table 2), this was sufficient to have been the immediate cause of death Only in one case was the carbon dioxid found to be above 40, and here alkali had been given the day previous

To emphasize the importance of acidosis in nephritis, three groups of two cases each are tabulated in Table 2 It is not believed that detailed case histories would aid especially in any deductions that might be drawn, and they are therefore omitted The first two patients suffered from severe chronic interstitial nephritis, showing marked nitrogen retention and acidosis It is worthy of note that E M was up and about at the time of the first analyses, while A N, after a short stay in the hospital, was at home for a period of seven weeks feeling improved In both of these cases there was pronounced acidosis, and at the end the carbon dioxid dropped to such a low level as to be incompatible with life The observations of Whitney[11] make it evident that such low figures may be the direct cause of death As these patients did not receive alkali (until after the last recorded test), the carbon dioxid obviously fell to a lower level than would otherwise have been the case

W W and J McC represent cases of chronic nephritis admitted to the hospital with pronounced symptoms of acidosis Although both patients died about one month after leaving the hospital, they showed considerable clinical improvement, this being coincident with the rise in the carbon dioxid combining power of the blood

The last two patients, M McA and W C, men of 44 and 49 years, respectively were cases of acute nephritis showing pronounced acidosis (very marked dyspnea), but ending in complete recovery Although this type of case is apparently not frequently encountered, it furnishes an interesting contrast to the preceding two groups W C was admitted supposedly in "uremic" coma On estimating the creatinin and urea in the blood, however, we were surprised at the comparatively slight nitrogen retention, but an examination of the carbon dioxid combining power disclosed the apparent difficulty Two infusions of sodium bicarbonate, 12 gm each, on the fifteenth and sixteenth, produced quite remarkable clinical results, and in less than two weeks the blood findings were normal

TABLE 2—ACIDOSIS IN CHRONIC AND ACUTE NEPHRITIS

Case	Date	CO Combining Power C c per 100	Creatinin Mg per 100 C c Blood	Urea Nitrogen Mg per 100 C c Blood	Remarks
F M	11/30/15	24	17 5	97	Death in chronic nephritis apparently due to acidosis no alkali given
	12/ 4/15	21	21 5	129	
	12/10/1	26	22 3	132	
	12/17/15	15	24 2	150	
	12/24/15	12	26 7	200	
A N	3/12/18	31	8 0	97	
	3/26/18	28	12 1	110	
	4/16/18	23	11 2	78	
	5/ 7/18	25	15.2	76	
	5/24/18	12	17 0	148	
W W	2/11/16	23	8 5	5	Acute exacerbation of chronic nephritis clinical improvement coincident with rise in alkali reserve alkali given for a time
	2/23/16	21	12	76	
	3/ 7/16	52	10 4	60	
	4/ 7/16	54	9 5	39	
	5/10/16	22	9 6	56	
J McC	12/28/15	20	5 1	64	
	1/ 8/16	50	4 6	39	
	1/11/16	68	5 4	39	
	2/ 4/16	40	4 8	36	
M McA	1/25/16	22	4 6	71	Severe acidosis in acute nephritis with complete recovery
	4/11/16	45	2 7	17	
	5/ 8/17		2 4	17	
W C	1/15/16	22	3 7	44	
	1/17/16	58	4 1	62	
	1/19/16	56	3 2	53	
	1/28/16		1 9	19	
	5/11/18		1 8	16	

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[9] Van Slyke D D Stillman Edgar and Cullen G E J Biol Chem **30** 401 (June) 1917

[10] Myers V C and Killian J A Am J M Sc **157** 674 (May) 1919

[11] Whitney J L Studies on Acidosis The Immediate Cause of Death and Remarks on the Acidosis of Nephritis Arch Int Med **20** 931 (Dec) 1917

Several years ago, Peabody[12] stated that the development of acidosis bears little relation to the accumulation of nonprotein nitrogen in the blood or to the phenolsulphonephthalein output, although he pointed out that in the terminal stages of uremia there may be a high grade acidosis Our experience likewise leads us to believe that there are many cases of nephritis with considerable nitrogen retention that show little acidosis, but this certainly is not true of the more advanced cases From the data reported in Table 1, it would appear that all fatal cases of chronic nephritis with marked nitrogen retention show a severe acidosis, sufficient in some instances to be the actual cause of death

What part acidosis plays in the clinical symptoms of so-called uremia is difficult to answer Patients with pronounced acidosis present a somewhat different clinical picture but until we possess additional information regarding the cause of uremic symptoms, whether they are due to a toxic base such as methylguanidin, to a deficiency in calcium, or to something else, it will not be possible to clear up this problem satisfactorily Palmer and Henderson, Sellards, Peabody and Whitney, in the papers previously referred to, have given illuminating discussions of the acidosis problem in nephritis So far as the acidosis goes, it is now possible to obtain very reliable information from the carbon dioxid combining power of the blood plasma with the relatively simple Van Slyke method, and furthermore, the administration of alkali can be particularly well controlled with this method Acidosis is a fairly prominent feature of many cases of acute nephritis, and is present in severe form in all terminal cases with marked nitrogen retention

CONCLUSIONS

All fatal cases of chronic nephritis with marked nitrogen retention show a severe acidosis, sufficient in many instances to be the actual cause of death

In some cases of acute nephritis and acute exacerbation of chronic nephritis the distress is apparently due to the acidosis, since the judicious use of sodium bicarbonate results in general clinical improvement With the rise in the carbon dioxid combining power of the blood, the dyspnea and hyperpnea disappear

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[12] Peabody F W Clinical Studies on the Respiration, II The Acidosis of Chronic Nephritis Arch Int Med 16 955 (Dec) 1915

Child Surveys—The need for surveys to reveal exactly what a child ought to have in order to be properly reared and what his chances are for getting it under present conditions is one of the topics emphasized in the seventh annual report of the chief of the Children s Bureau of the U S Department of Labor Special investigations made by the Childrens Bureau in three American cities show how babies have suffered as a result of the advance in the price of milk In Baltimore of 728 children between 2 and 7 years of age only 29 per cent are now having fresh milk to drink as against 60 per cent a year ago, in Washington half of those between 2 and 7 years visited by the public health nurses were receiving no fresh milk to drink, and in New Orleans conditions were even worse Studies of the type recommended by the chief of the Children s Bureau would seek to determine all a child s needs They would be based on actual living conditions in various types of communities, and would accordingly have a practical and not merely a theoretical value Through them mothers would obtain an authoritative statement concerning the basic needs of growing children, and communities would be given an insight into the way in which those needs may be met

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HEMOLYTIC ACTIVITY OF SOLUTIONS OF ARSPHENAMIN AND NEO-ARSPHENAMIN *

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AND
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In the preparation of solutions of arsphenamin and neo-arsphenamin for administration by intravenous injection, sterile freshly distilled water or saline solutions (generally 0 4 per cent sodium chlorid in distilled water) are commonly employed as solvents the solution of arsphenamin so prepared is acid and highly toxic and requires neutralization with an alkali before administration, 15 per cent solution of sodium hydroxid being commonly used for this purpose On the addition of sodium hydroxid, the solution becomes very turbid owing to the precipitation of the insoluble base of arsphenamin, with the further addition of alkali the solution is neutralized and "clears, with the formation of the soluble monosodium salt The addition of still more alkali to this clear solution (usually one third of the amount required for neutralization and clearing) results in the hydrogen atoms of both hydroxyls becoming replaced with sodium and the production of a disodium salt of arsphenamin Ehrlich originally advised the administration of the monosodium salt (solutions neutralized with sodium hydroxid just to the point of neutralization and clearing), but recently the tendency has been to add a little excess of alkali with the production or partial production of the disodium salt, which has been regarded as somewhat less toxic Solutions of neo-arsphenamin, being neutral, do not require the addition of alkali

While the causes and nature of the reactions following the intravenous injection of arsphenamin and neo-arsphenamin are not as yet definitely known one of us (Kolmer) with Schamberg, Raiziss and Weiss[1] has recently shown that solutions of arsphenamin in water possess hemolytic properties, and that this factor may exert some influence in the pathogenesis of the untoward symptoms following intravenous injections of arsphenamin Solutions of neo-arsphenamin were reported as being practically devoid of hemolytic properties

HEMOLYTIC ACTIVITY OF ARSPHENAMIN

The hemolytic activity of solutions of arsphenamin in water may be ascribed[1] to three factors, namely (1) the direct hemolytic activity of arsphenamin (2) the hemolytic activity of nonisotonic solvents (water or hypotonic saline solutions) and (3) the hemolytic activity of sodium hydroxid especially when used in excess for the production of the disodium salt

When arsphenamin is dissolved in water and the solution is neutralized with sodium hydroxid, some sodium chlorid is produced but never enough to render the solution isotonic 0 1 gm of arsphenamin dissolved in water and neutralized with sufficient sodium hydroxid to produce the monosodium or disodium salt yields about 0 0247 gm of sodium chlorid *For the*

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* From the Dermatological Research Laboratories

[1] Schamberg J F Kolmer J A Raiziss G B, and Weiss Charles Laboratory and Clinical Studies Bearing on Causes of the Reactions Following Intravenous Injections of Arsphenamin and Neo-Arsphenamin Arch Dermat & Syph 1 235 (March) 1920

preparation of isotonic solutions, varying strengths of sodium chlorid in distilled water must be used according to the total volume of fluid desired, a salt solution of one uniform strength does not suffice for all concentrations, as thus indicated

0 1 gm in 50 c c isotonic solution requires the use of 0 82 per cent sodium chlorid solution (0 6 gm in 300 c c)
0 1 gm in 40 c c isotonic solution requires the use of 0 81 per cent sodium chlorid solution (0 6 gm in 240 c c)
0 1 gm in 30 c c isotonic solution requires the use of 0 79 per cent sodium chlorid solution (0 6 gm in 180 c c)
0 1 gm in 20 c c isotonic solution requires the use of 0 77 per cent sodium chlorid solution (0 6 gm in 120 c c)
0 1 gm in 10 c c isotonic solution requires the use of 0 68 per cent sodium chlorid solution (0 6 gm in 60 c c)
0 1 gm in 5 c c isotonic solution requires the use of 0 47 per cent sodium chlorid solution (0 6 gm in 30 c c)
0 1 gm in 4 c c isotonic solution requires the use of 0 33 per cent sodium chlorid solution (0 6 gm in 24 c c)

Since salt solutions varying from 0 8 to 0 9 per cent may be regarded as isotonic for practical purposes, the standard physiologic sodium chlorid solution (0 85 per cent) may be used when each 0 1 gm of arsphenamin is dissolved in 30 c c or more of saline solution (equivalent to 0 6 gm dissolved in 180 c c or more) , possibly the same solution could be used when each 0 1 gm is dissolved in 20 c c (equivalent to 120 c c for 0 6 gm), which is generally recommended, but when more concentrated solutions are employed, the strength of the saline solution varies accordingly and becomes increasingly important, since concentrated solutions of arsphenamin are more hemolytic than dilute solutions

The results of experiments shown in Table 1 were observed by preparing solutions of the acid (non-neutralized) and of the monosodium (alkali added just to neutralization and clearing) and disodium (one third excess alkali) salts of arsphenamin in water and isotonic saline solutions in seven concentrations varying from 0 1 gm in 50 c c (equivalent to 0 6 gm in 300 c c) to 0 1 gm in 4 c c (equivalent to 0 6 gm in 24 c c) , each of the resulting forty-two solutions was tested for hemolytic activity by placing 1 c c in eight test tubes and adding increasing amounts of a 50 per cent suspension of washed human erythrocytes, thus 0 1, 0 2, 0 4, 0 6, 0 8, 1 0, 2 0 and 3 0 c c These mixtures and controls were placed in a water bath at 38 C for one hour and then in a refrigerator over night, the occurrence and degree of hemolysis being recorded the following day

TABLE 1—THE HEMOLYTIC ACTIVITY OF ARSPHENAMIN IN VARYING SOLUTIONS FOR HUMAN ERYTHROCYTES *

	Acid Solutions		Monosodium Solutions		Disodium Solutions	
Arsphenamin	Water†	Isotonic Saline	Water	Isotonic Saline	Water	Isotonic Saline
0 1 gm in 50 c c (0 6 in 300 c c)	0 1	<0 1	0 2	<0 1	0 4	<0 1
0 1 gm in 40 c c (0 6 in 240 c c)	0 1	<0 1	0 2	<0 1	0 4	<0 1
0 1 gm in 30 c c (0 6 in 180 c c)	0 1	<0 1	0 4	<0 1	0 6	0 2
0 1 gm in 20 c c (0 6 in 120 c c)	0 2	<0 1	0 4	<0 1	0 6	0 2
0 1 gm in 10 c c (0 6 in 60 c c)	0 2	<0 1	0 6	<0 1	1 0	0 4
0 1 gm in 5 c c (0 6 in 30 c c)	0 2	<0 1	0 6	<0 1	1 0	0 4
0 1 gm in 4 c c (0 6 in 24 c c)	0 2	0 1	0 8	0 2	1 0	0 6

* This table gives the largest amounts of a 50 per cent suspension of washed erythrocytes completely hemolized by 1 c c of each solution of arsphenamin after the mixtures had been incubated at 38 C for one hour and stood in a refrigerator over night

† Water alone in 1 c c. caused the complete hemolysis of 0.2 c c of cells

In Table 2 are shown the results of duplicate experiments conducted at the same time with sheep erythrocytes Additional experiments were conducted in exactly the same manner, employing defibrinated rabbit blood and rabbit blood collected with sodium fluorid to prevent coagulation, in order to test the hemolytic properties of the solutions under conditions more closely approaching those in vivo and in the presence of plasma or serum

The results of the four sets of experiments were closely parallel and may be thus summarized

1 Acid or non-neutralized solutions and solutions of the monosodium and disodium salts of arsphenamin in isotonic saline solution were decidedly less hemolytic than corresponding solutions in plain distilled water Even in isotonic saline all solutions of arsphenamin showed some hemolysis, owing to the direct hemolytic activity of the drug itself, as previously mentioned As shown in Tables 1 and 2, while 1 c c of a solution of arsphenamin in water in the proportion of 0 6 gm in 120 c c caused the complete hemolysis of from 0 6 to 1 0 c c of 50 per cent suspensions of human and sheep erythrocytes, similar solutions in isotonic saline solution hemolyzed only from 0 1 to 0 2 c c of the same cells these and similar results with defibrinated and fluorided rabbit blood indicating that *solutions of arsphenamin in isotonic saline solutions are generally from three to ten times less hemolytic than similar solutions in plain distilled water*

TABLE 2—THE HEMOLYTIC ACTIVITY OF ARSPHENAMIN IN VARYING SOLUTIONS FOR SHEEP ERYTHROCYTES *

	Acid Solutions		Monosodium Solutions		Disodium Solutions	
Arsphenamin	Water†	Isotonic Saline	Water	Isotonic Saline	Water	Isotonic Saline
0 1 gm in 50 c c (0 6 in 300 c c)	0 1	<0 1	0 4	<0 1	0 8	<0 1
0 1 gm in 40 c c (0 6 in 240 c c)	0 1	<0 1	0 4	<0 1	1 0	<0 1
0 1 gm in 30 c c (0 6 in 180 c c)	0 1	<0 1	0 8	<0 1	1 0	0 1
0 1 gm in 20 c c (0 6 in 120 c c)	0 1	<0 1	0 8	<0 1	1 0	0 2
0 1 gm in 10 c c (0 6 in 60 c c)	0 2	<0 1	1 0	<0 1	1 0	0 2
0 1 gm in 5 c c (0 6 in 30 c c)	0 4	0 1	3 0	<0 1	2 0	0 8
0 1 gm in 4 c c (0 6 in 24 c c)	0 8	0 2	3 0	0 2	3 0	1 0

* This table gives the largest amounts of a 50 per cent suspension of washed erythrocytes completely hemolized by 1 c c of each solution of arsphenamin after the mixtures had been incubated at 38 C for one hour and stood in a refrigerator over night

† Water alone (1 c c) caused the complete hemolysis of 0 6 c c of cells

2 *Concentrated solutions of arsphenamin in water and isotonic saline are more hemolytic than dilute solutions,* this is to be expected, owing to the direct hemolytic activity of arsphenamin, which effects are naturally most marked in concentrated solutions For example while 1 c c of a solution of the disodium salt in isotonic saline in proportion of 0 6 gm of arsphenamin in 300 c c failed to produce complete hemolysis of 0 1 c c of 50 per cent suspensions of human and sheep erythrocytes, concentrated solutions, as 0 6 gm in 24 c c of isotonic saline, produced complete hemolysis of from 0 6 to 1 0 c c of cells, indicating that the latter solution was from six to ten times more hemolytic than the dilute solution This gradual increase in hemolytic activity of concentrated solutions is shown in Tables 1 and 2, and similar results were observed with defibrinated and fluorided rabbit blood

3 Solutions of the monosodium salt of arsphenamin in water and saline are more hemolytic than acid solutions, and solutions of the disodium salt are more hemolytic than those of the monosodium salt We have ascribed these differences to the well known and marked hemolytic activity of sodium hydroxid and alkalis in general Of most practical significance are

the relative hemolytic activities of solutions of the monosodium and disodium salts, for example, 1 c c of a solution of the monosodium salt of arsphenamin in isotonic saline solution in the proportion of 0 6 gm in 120 c c produced complete hemolysis of less than 0 1 c c of human and sheep corpuscles, whereas similar solutions of the disodium salt caused complete hemolysis of 0 2 c c of the same cells These and similar examples with rabbit blood indicate that solutions of the disodium salt of arsphenamin are from two to eight times more hemolytic than corresponding solutions of the monosodium salt We may repeat in this connection that solutions of the monosodium salt are designated as those to which just sufficient sodium hydroxid had been added to neutralize and "clear" the solution, solutions of the disodium salt contained this amount of alkali plus one third excess Whether the monosodium and disodium salts of arsphenamin are more hemolytic than the base has not been determined, we have ascribed the results to the alkali, the solutions of the disodium salt being more hemolytic in proportion to the larger amounts of alkali added to the solutions

HEMOLYTIC ACTIVITY OF NEO-ARSPHENAMIN

Neo-arsphenamin, in contrast to arsphenamin is not hemolytic, but *dilute solutions of neo-arsphenamin in sterile distilled water are hemolytic whereas concentrated solutions are not both dilute and concentrated solutions in physiologic sodium chlorid solution (0 85 per cent sodium chlorid in distilled water) are without demonstrable hemolytic properties*

TABLE 3—THE HEMOLYTIC ACTIVITY OF NEO ARSPHENAMIN IN WATER AND PHYSIOLOGIC SODIUM CHLORID SOLUTION FOR HUMAN ERYTHROCYTES

	Hemolytic Activity	
Neo Arsphenamin	Solution in Water*	Solutions in Saline
0 1 gm in 50 c c (0 9 in 450 c c)	0 6†	No hemolysis
0 1 gm in 40 c c (0 9 in 360 c c)	0 6	No hemolysis
0 1 gm in 30 c c (0 9 in 270 c c)	0 4	No hemolysis
0 1 gm in 20 c c (0 9 in 180 c c)	0 4	No hemolysis
0 1 gm in 15 c c (0 9 in 135 c c)	0 4	No hemolysis
0 1 gm in 10 c c (0 9 in 90 c c)	0 2	No hemolysis
0 1 gm in 5 c c (0 9 in 45 c c)	<0 2	No hemolysis
0 1 gm in 4 c c (0 9 in 36 c c)	<0 2	No hemolysis
0 1 gm in 3 c c (0 9 in 27 c c)	No hemolysis	No hemolysis
0 1 gm in 2 c c (0 9 in 18 c c)	No hemolysis	No hemolysis
0 1 gm in 1 c c (0 9 in 9 c c)	No hemolysis	No hemolysis

* Water alone (1 c c) caused the complete hemolysis of 0 4 c c of a 10 per cent suspension of corpuscles

† The largest amount of a 10 per cent suspension of washed human erythrocytes in physiologic sodium chlorid solution completely hemolyzed after incubation at 38 C for one hour and stood over night in a refrigerator

The results of experiments conducted as described above, except that washed human corpuscles in 10 per cent suspension were employed, are shown in Table 3 Duplicate tests were conducted with defibrinated and fluorided rabbit blood

When neo-arsphenamin is dissolved in water some inorganic matter is produced including sodium chlorid The exact amount of sodium chlorid produced by a given amount of the drug remains to be determined, but it would appear, according to our results, that when 0 9 gm of neo-arsphenamin is dissolved in 27 c c of water, enough salt is furnished to render the solution isotonic This indicates that in 3 per cent solutions of neo-arsphenamin there is produced somewhere in the neighborhood of 0 7 per cent inorganic salts responsible for isotonicity or, in other words the solution of 0 9 gm of neo-arsphenamin in about 30 c c of water produces about 0 2 gm of these salts sufficient for rendering the water isotonic As shown in Table 3, dilute solutions of neo-arsphenamin (0 9 gm in 90 c c or more of water) are decidedly hemolytic because the inorganic salts are too highly diluted with water, solutions of 0 9 gm in from 36 to 50 c c are slightly hemolytic, while solutions of 0 9 gm in 30 c.c or less of water are nonhemolytic These results would have been more striking if 50 per cent suspensions of corpuscles had been used because a 10 per cent suspension in saline solution as employed in these experiments, carried over more isotonic sodium chlorid solution than a 50 per cent suspension of cells

As shown in Table 3, all solutions of neo-arsphenamin in physiologic sodium chlorid solution were nonhemolytic, unquestionably all solutions and particularly the concentrated solutions were hypertonic by reason of the addition of the sodium chlorid liberated by the solution of the drug, but none of the solutions produced hemolysis

PRACTICAL SIGNIFICANCE

The practical significance of these results depends almost entirely on the importance of intravascular hemolysis following the intravenous administration of arsphenamin and neo-arsphenamin, if hemolysis is held responsible for some of the untoward effects following the administration of these drugs the results are of considerable practical importance and clearly indicate the adoption of certain steps in the technic of administration calculated to reduce the degree of hemolysis Animal tests consisting of the intravenous injection of rats with 2 per cent solutions of the disodium salt of arsphenamin in water and in isotonic saline have not shown constant differences in toxicity, similar tests employing 4 per cent solutions of neo-arsphenamin in water and physiologic sodium chlorid solution have yielded closely similar results so far as life or death of the experimental animals were concerned Possibly these tests are not sufficiently delicate for eliciting the effects ascribable to hemolysis alone, abundant clinical experience has shown that solutions of arsphenamin in water are well borne and some physicians believe that the solution of the disodium salt of arsphenamin is better borne than that of the less hemolytic solution of the monosodium salt However comparative studies may show differences and a decrease of reactions in favor of the use of the less hemolytic solutions, we are not aware of such studies having been made on a sufficiently large scale to be conclusive, but suggest the advisability of conducting the investigation by reason of the very important practical value of the subject

TECHNIC FOR REDUCING HEMOLYTIC ACTIVITY

While hemolysis in vivo may be insufficient to produce appreciable harm it would appear quite certain not to do good and it is advisable to reduce as much as possible the hemolytic activity of solutions of arsphenamin and neo-arsphenamin these objects may be obtained by observing the following points in technic

1 By administering neo arsphenamin dissolved in sterile physiologic sodium chlorid solution instead of plain distilled water

2 By preparing solutions of arsphenamin in a saline solution of sufficient strength to render the solution isotonic The strength of the saline depends on the

concentration of the drug, for example, solutions of 0 6 gm of arsphenamin in 120 c c or more, and of 0 4 gm in 80 c c or more, may be made with physiologic sodium chlorid solution, whereas more concentrated solutions require from 0 3 to 0 7 per cent saline as described above to secure isotonic solutions, according to the concentration of the solution of arsphenamin the physician is accustomed to prepare The strength of the saline is the same for solutions of both the monosodium and disodium salts Probably sterile physiologic sodium chlorid solution may be used for preparing the concentrated solutions of arsphenamin, but the resulting solutions would be hypertonic These hypertonic solutions, however, are not likely to prove hemolytic, as experiments have shown that solutions of sodium chlorid in distilled water may be as high as 7 per cent before producing hemolysis of fresh citrated human blood

3 By avoiding the intravenous administration of concentrated solutions of arsphenamin for the reasons already given, concentrations of 0 6 gm of arsphenamin in 60 c c or less of water or isotonic saline markedly increase hemolytic activity, more dilute solutions, as 0 6 gm in from 120 to 180 c c of water or saline, are much less hemolytic

4 By giving the injections slowly rather than rapidly, and particularly if concentrated solutions are being administered with a syringe, with slow injections there is more opportunity afforded for dilution of the hemolytic solution of arsphenamin with blood plasma and consequent reduction in hemolytic activity

5 By avoiding the use of an excess of sodium hydroxid, whether solutions of the disodium salt are less toxic than solutions of the monosodium salt is yet to be determined in a conclusive manner From the standpoint of hemolysis alone, the solution of monosodium salt (just enough alkali added to neutralize and "clear" the solution) is preferable to solutions to which one third excess of alkali has been added, probably the practice of adding enough alkali just to neutralize the solution plus one fifth more will prove the best practical procedure

CONCLUSIONS

1 All solutions of arsphenamin are hemolytic, owing primarily to the direct hemolytic activity of arsphenamin itself

2 Solutions of arsphenamin in isotonic saline solution are from three to ten times less hemolytic than solutions in water

3 The hemolytic activity of solutions of arsphenamin in water and isotonic saline is unavoidably increased by the addition of sodium hydroxid for purposes of neutralization, the addition of an excess of alkali increases hemolytic activity

4 Concentrated solutions of arsphenamin in water and isotonic saline are more hemolytic than dilute solutions

5 Neo-arsphenamin is not hemolytic

6 Dilute solutions of neo-arsphenamin in water, as 0 9 gm in 90 c c or more of water, are hemolytic, owing to hypotonicity of the solution Concentrated solutions, as 0 9 gm in 30 c c or less of water, are not hemolytic, owing to the presence of sufficient inorganic salts from the drug to render the solution approximately isotonic

7 To avoid hemolysis in the administration of dilute solutions of neo-arsphenamin, sterile physiologic sodium chlorid solution prepared of freshly distilled water should be used, when the concentrated solutions are administered (each 0 1 gm dissolved in 3 c c or less), sterile distilled water may be employed

8 The degree of hemolysis produced by the administration of arsphenamin may be lessened (*a*) by using instead of water sterile saline solutions of such strength as to render the solutions isotonic, (*b*) by avoiding the administration of concentrated solutions, (*c*) by carefully neutralizing and "clearing" the solution with sodium hydroxid, counting the drops or otherwise measuring the amount necessary, and adding not more than a fifth of this amount in excess, and (*d*) by giving the injections slowly so as to permit gradual mixing and dilution of the solution with the blood

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DIFFERENCES IN PATHOLOGY OF PANDEMIC AND RECURRENT FORMS OF SO-CALLED INFLUENZA

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In New York City the first recurrent epidemic of so-called influenza, now fortunately at an end, presented certain noteworthy differences from the pandemic disease which prevailed in the latter part of 1918 The recurrent disease while it incapacitated thousands, pursued a milder course, complicating pneumonias were relatively few, and the death rate, of course, did not approach the appalling figures of the previous eruption On the other hand, the recurrent disease was characterized by a greater variety of pulmonary lesions—among other things, by concomitant semipurulent pleural exudates, by multiple pleural and subpleural abscesses, by frequent and extensive purulent invasion of the interlobar and interlobular septums of the lungs, by the formation of solitary, oftener multiple, discrete or confluent abscesses of the parenchyma, and by an extraordinary range of pneumonic lesions The pathologic anatomy of the recurrent disease is important, not only from the standpoint of the diagnosis and treatment of the acute process, but also because the nature and distribution of the anatomic changes are such that we may expect both immediate and remote sequelae some of which will probably demand operative interference

The pandemic of 1918 is fresh in memory, but for purposes of comparison it may be recalled that the disease was strikingly abrupt in onset and that pneumonic complications were seldom absent, that they occurred early, progressed with amazing rapidity, and yielded a high mortality At necropsy, the changes in the lungs were so constant that the anatomic diagnosis of so-called influenzal pneumonia could be postulated with almost absolute certainty, even in the absence of any knowledge of the clinical history Variations occurred, of course, but were numerically inconsiderable For example, in the first epidemic, the pleura was almost invariably free from signs of exudate The inflammatory changes in the lungs, commencing in the deeper portions of both lower lobes apparently simultaneously, and progressing rapidly toward the periphery, often spared many intervening or surface lobules The pleura almost always escaped literally, it would appear, because death took place before the pleura had time to react In certain localities, empyema frequently occurred as a sequel to pneumonia, but the rapidly fatal pneumonias were seldom actually accompanied by inflammatory changes in the pleura In the recurrent epidemic, on the contrary, many hundreds came down with a disease of comparatively trifling proportions, pneumonic complications, when present at all, were late and progressed without unusual rapidity In the recurrent disease, the anatomic picture was extremely variable, so much so that, in order to classify the pleural and pulmonary changes, one must resort to the process of grouping, and between groups and the individual members of different groups there are numerous gradations

DEATH FROM ASPHYXIA WITHOUT PNEUMONIA

Near the close of the epidemic of 1918, one of us[1] described a variety of so-called influenzal infection which was characterized anatomically by generalized intense congestion of the viscera, without evidences of pneumonic lesions, or attended by lesions of such small size as to be negligible Death was accompanied by signs of asphyxia and, at necropsy, the right side of the heart was found to be immensely distended by deep bluish black fluid and clotted blood The lungs were large, heavy and deep bluish, and the pleura was thin, smooth and glistening On section, the cut surface was of the smoothness of velvet, and pressure yielded large amounts of dark fluid blood with or without an admixture of dirty, pinkish, edematous fluid The mucosa of the larger bronchi was covered by a thin sheeting of whitish exudate, beneath which the membrane was swollen and intensely injected Virtually every other organ in the body was injected to a correponding extent In the recurrent epidemic we have encountered five cases of identical nature In all of them poisoning by wood alchohol was suspected because of the intense and widespread injection of the tissues, particularly the lungs and brain Chemical investigation of the viscera in every case, however, was negative Of the cases observed in 1918 and 1920—seven in all—the clinical histories were obtainable in six and showed that the patients had been ill for periods varying from a week to twenty-one days with cyanosis and generalized aches and pains, prostration, elevation of temperature, injection of the pharynx, and numerous moist and squeaky rales scattered over both sides of the chest In two cases, signs of meningeal irritation were present in the form of muscular twitchings In one case of the seven, death was sudden

EMPYEMA AND PULMONARY ABSCESSES

In the recurrent epidemic, forty-five cases were investigated by necropsy at Bellevue Hospital Of this number, the pleura was involved in twenty-seven (60 per cent) Of the twenty-seven cases effusions occurred into the pleural cavity in eighteen, or forty per cent of the total number of cases observed at necropsy, in twelve cases (26 6 per cent), the effusions were semipurulent and unilateral in distribution, and in two cases bilateral, the remaining four were frankly purulent—two bilateral and two unilateral Of the twenty-seven cases of pleural involvement mutiple small subpleural abscesses occurred twelve times (44 4 per cent) and of these, six were associated with semipurulent effusions and one with frank empyema All of the seven cases of small subpleural abscesses associated with pleural effusions were found to be accompanied by abscesses in the parenchyma of the lung, the latter being relatively much larger in size In the remaining five cases of subpleural abscesses, purulent foci in the parenchyma of the lung were absent, and there were no signs of pleural effusion, although the pleura was the seat of edematous fibrinous exudate in every instance The association of multiple subpleural abscesses with pleural effusions and with abscesses in the parenchyma of the lung is of obvious surgical significance On the other hand, it appears that multiple small subpleural abscesses may exist alone without giving rise to secondary effusions into the pleura In the presence of such abscesses, however, it would be rather far fetched to assume that an accompanying effusion represents an independent infection of the pleura While we have no anatomic evidence to offer that subpleural abscesses of the type described in this paper bear a direct causative relationship to empyema it is quite probable that if an individual with small subpleural abscesses survives sufficiently long, rupture of or seepage through might readily infect the pleura with the secondary formation of seropurulent or purulent effusions In short, in the recurrent disease there were cases of pleural effusion, purulent or semipurulent, which were associated with a combination of subpleural and parenchymal abscesses, there were other cases in which subpleural abscesses occurred alone and were not associated with effusions into the pleural cavity, in still other cases, pleural effusions occurred independently of abscess formation either in the pleura or in the lungs

Of the forty-five cases, sixteen were associated with the presence of intrapulmonic abscesses (35 5 per cent) In only one of these cases was the abscess solitary The others were multiple, of irregular distribution, some bilateral, others unilateral, some in the lower lobes, others in the upper The abscesses varied in size from minute affairs to purulent foci approximating 2 or 3 cm in diameter In one case, the upper lobe of the lung was almost completely replaced by multiple discrete or intercommunicating cavities

THE PLEURAL CHANGES

The inflammatory changes in the pleura presented marked variations

(*a*) In those cases of pneumonia in which the changes in the lung were obviously of the more acute variety, localized sheets of edematous fibrinous exudate were scattered over the surface of the consolidated lung, and when stripped away left an opaque, finely granular, deep bluish surface scattered through which innumerable minute hemorrhagic specks were often discernible In such cases, the exudate was practically never attended by the excessive accumulation of fluid in the corresponding pleural cavity

(*b*) A second group of cases was characterized by the extensive deposit of fibrinous material over the surface of the lung the membrane being thick, tough opaque, dirty yellowish white, firmly attached and often thrown into innumer[illegible] small [illegible]rugations These membranous deposit [illegible] ess of organization, and were invariably associated with excessive accumulation of semipurulent fluid exudate in the pleural cavity

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[1] Symmers Douglas The Significance of the Vascular Changes in the So Called Pandemic Influenza New York M J **110** 789 (Nov 15) 1919

(*c*) In a third group of cases, the pleura was the seat of diffuse or patchlike collections of succulent, yellowish exudate which penetrated the lung substance at irregular intervals Section of the consolidated lung in such cases showed thick, edematous prolongations extending from the pleura and surrounding individual lobules or small groups of lobules, not alone at the periphery of the lung, but deep in its substance In many instances the interlobar septums were extensively invaded, the lobes were firmly glued together, and not infrequently collections of fluid exudate were included between them

(*d*) In a fourth group of cases, the pleura presented solitary or multiple, pea-sized or slightly larger, rounded projections which were yellowish, soft in consistency, and, on section, released moderately thick, yellowish, cloudy fluid These small abscesses lay in or immediately beneath the pleura and were often associated with quantities of seropurulent fluid in the dependent portions of the cavity The intervening pleura was usually the seat of irregular or diffuse collections of edematous fibrinous exudate The external covering of the abscesses was intact as far as the unaided eye could determine Microscopic examination of the pleura in these cases showed the presence of rounded or elongated, circumscribed masses of polymorphonuclear leukocytes enclosed in a meshwork of finely fibrillated fibrin, the whole lying in or just beneath the pleura, sometimes surrounded by a thin but distinct layer of connective tissue representing, apparently the result of proliferation of the walls of the lymph vessels In certain of these minute abscesses the limiting connective tissue contained small, injected blood vessels

It is obvious that the changes in the pleura are of extreme importance not only from the standpoint of immediate effects but because they are such that if the patient survives, sequelae may be expected in a certain proportion of cases in the form of organization of the pleural membranes with complete or partial obliteration of the cavity and interference with the movements of the corresponding lung chronic diffuse or sacculated pleural or interlobar empyemas and chronic interstitial interlobar pleuritis or interlobular pneumonia following organization of the exudate in the pleural extensions In the same way one seems justified in the prediction that residuums of pulmonary abscesses may occasion trouble in a certain number of cases in the form of gangrene of the lung following invasion by putrefactive bacteria, organization of the abscess walls with the overgrowth of connective tissue, and the formation of bronchiectases, expectoration of pus from bronchial fistulas, and the like

PULMONARY LESIONS

In the pandemic of 1918, pneumonia was an almost constant occurrence The prevailing type was a confluent lobular hemorrhagic and exudative lesion of bilateral distribution associated with areas of acute vesicular emphysema In the recurrent disease, as we saw it at Bellevue Hospital, the attendant pneumonia conformed to no anatomic type Of the pulmonary changes, the nearest approach to uniformity was found in the five cases marked by diffuse and intense congestion of the lungs and of virtually every other organ in the body, with dilatation of the heart and death from asphyxia without signs of pneumonia, or with pneumonic foci which were numerically and geographically insignificant Of the forty-five cases, only three were sufficiently charateristic to be classified with the variety of pneumonia that prevailed in the pandemic sweep The remaining thirty-seven cases represented a conglomeration of pneumonic lesions, scarcely any two of which bore the same essential features Among these, however, we were enabled to recognize a group, the members of which seemed to bear a certain general resemblance to the confluent lobular pneumonia of 1918 In these cases both lungs were involved, the lower lobes to a greater extent than the upper The pleura covering the consolidated areas was irregularly strewn with fibrinous exudate and more or less richly sprinkled with hemorrhagic petechiae, and areas of acute vesicular emphysema were occasionally to be observed The splotchlike hemorrhagic extravasations in the pleura, so frequently encountered a year ago, were seldom discernible On the other hand, the consolidated portions not uncommonly showed large nodular or streaklike, firm, dark slate-blue elevations which, on section, revealed a smooth, velvety, bluish black surface, rich in blood—the so-called marantic infarctions or better, massive hemorrhagic extravasations The cut surface of the lungs as a whole presented extreme variations both in appearance and in consistency, owing to different combinations of dull reddish or deep bluish or grayish red lobular consolidations, confluent lobules of dull white appearance and semifluid consistency inflammatory edema, abscess cavities varying in size from the head of a large pin to that of a crabapple and filled with moderately thick whitish pus, the picture being still further complicated on occasions by the intersection of cream colored bands of infiltrated pleura that surrounded lobules or groups of lobules or that bound one lobe to another In addition, the mucosa of the larger bronchi was swollen, deep bluish red and of velvety smoothness In three cases, large portions of a lobe were consolidated in such fashion as to resemble ordinary croupous pneumonia

We do not mean to convey the impression that any single group of pneumonias in the recurrent epidemic presented the above described features with anything approaching regularity On the contrary, as we have already stated, no two sets of pneumonic lungs presented the same essential features in the same essential combination as did the prevailing pneumonia of the pandemic year Nevertheless it is possible to select individual features from the array of pneumonias that accompanied the recurrent epidemic, and from them to reconstruct a composite picture of the pneumonia which characterized the pandemic

Microscopically, the changes in the lung were correspondingly variable The capillary vessels were universally engorged, intra-alveolar hemorrhages were frequent—sometimes discrete, at other times confluent Certain vesicles were partially or completely filled by coagulated serous fluid, entangled in which were a few red cells or an occasional round cell Other vesicles were filled by polymorphonuclear leukocytes and fibrin, and through necrosis and confluence of these, the majority of abscesses appeared to arise The frequent and abundant appearance of fibrin was in contrast to the lungs of the pandemic disease, in which fibrin threads were rarely demonstrable and then in isolated localities and small numbers The interlobar pleural extensions were frequently enormously thickened through the infiltration of polymorphonuclear leukocytes and the deposition of variable quantities of fibrin Most of these prolongations were ribbon-like in shape but not infrequently became oval or rounded and centrally necrotic, in this way, other abscesses were formed In still other instances, the intervesicular venules and arterioles were thrombosed, and the exudate in the immediate vicinity showed large areas of necrosis The smaller bronchi were distended by polymorphonuclear leukocytes, and their epithelial cells were desquamated

HEART

In the pandemic of 1918 the heart muscle in the majority of cases was deeply congested but otherwise well preserved, both as far as the naked eye and microscopic changes were concerned In the recurrent epidemic, acute parenchymatous degeneration occurred with great frequency, the heart muscle being flabby, opaque and friable The immediate cause of death in both epidemics was to be found in immense dilatation of the heart, particularly the right side the cavities of which were often filled to the point of distention by deep bluish red fluid and partially clotted blood In one of the Bellevue Hospital cases during the recurrent epidemic, the pericardium was the seat of a semipurulent effusion out of which a pure growth of pneumococcus was secured With this exception, the pericardium showed no changes worthy of record

KIDNEYS

In the recurrent epidemic, acute parenchymatous degeneration of the kidneys occurred more frequently and in a more severe form than in the previous disease, the kidneys often being swollen, edematous and flabby, easily torn, and their markings obscured or irregular in distribution Microscopic examination revealed, in addition to widespread congestion, granular changes in the epithelial cells of the convoluted tubules, occasionally in those of the glomerular tufts

JAUNDICE

Of the forty-five cases investigated postmortem at Bellevue Hospital, jaundice occurred in only four, and was slight in extent, being limited to the face and upper portions of the chest At necropsy, a number of factors appeared to participate in its production namely, congestion and edema of the papilla of Vater and the surrounding mucous membrane of the duodenum, and the presence of mucoid secretions in the larger bile ducts, together with congestion and parenchymatous degeneration of the liver proper

MISCELLANEOUS COMPLICATIONS

In the recurrent epidemic, degenerative changes in the rectus muscles were observed in Bellevue Hospital only once, and were of mild degree (Zenker's degeneration) In the previous epidemic, this variety of muscle change was encountered in a considerable proportion of cases, and not infrequently was attended by rupture and extravasation of large quantities of blood into the sheath of the muscle, occasionally followed by secondary infection and abscess formation In another case in the recurrent epidemic, an abscess was found at the hilum of the right testicle associated with a solitary abscess of the upper lobe of the right lung occurring in a hemorrhagic variety of lobular pneumonia The same patient presented multiple effusions into the joints

BACTERIOLOGY

Bacteriologic examination of the pleural fluid removed surgically and sent to the laboratory together with that encountered at necropsy, revealed streptococci in most instances, occasionally *Staphylococcus aureus* and pneumococci Bacteriologic examination of the pus in the intrapulmonary abscesses almost invariably yielded a pure growth of *Streptococcus hemolyticus*, but occasionally *Staphylococcus aureus* In three cases, *Streptococcus hemolyticus* was isolated in pure culture from the blood In the pneumonic exudates themselves, the prevailing micro-organism was a streptococcus In occasional instances, influenza bacilli and pneumococci were isolated in combination with one another or with streptococci There were three cases in which massive portions of a lobe were consolidated in such fashion as to resemble ordinary croupous pneumonia In all of these the exudate was sticky In two *Bacillus mucosus-capsulatus* was isolated in the other *Streptococcus mucosus* In three other cases, streptococci were isolated from the blood during life, and all of them, at necropsy, presented abscesses of the lungs

SUMMARY AND CONCLUSIONS

1 The first recurrent epidemic of so-called influenza in New York presented anatomic variations from the pandemic disease of a year before (*a*) in the form of frequent and widespread inflammatory involvement of the pleura characterized by semipurulent and purulent exudates occurring in immediate association with pneumonic changes, (*b*) by multiple small pleural or subpleural abscesses, (*c*) by purulent infiltration of the interlobular and interlobar pleura and (*d*) by solitary oftener multiple, discrete or confluent intrapulmonary abscesses varying in size from a few millimeters to several centimeters

2 In the pandemic disease of 1918, the participation of the pleura in the pneumonic process was conspicuous by its rarity In the recurrent epidemic pleural involvement occurred in 60 per cent of all cases and in 40 per cent, purulent or semipurulent effusions were present

3 In the epidemic of 1918 intrapulmonary abscesses were virtually unknown accompaniments of the pneumonic process In the recurrent epidemic they were encountered in 35 5 per cent of all cases Of the total number of cases attended by pleural involvement (twenty-seven in all) multiple small pleural or subpleural abscesses occurred in twelve or in 44 4 per cent

4 As a result of the recurrent disease sequelae may be expected in the form of (*a*) organization of the inflamed pleural membranes with partial or complete obliteration of the cavity and interference with the excursions of the corresponding lung (*b*) delayed diffuse or sacculated pleural or interlobar empyemas, (*c*) fibrosis of the lung following organization of exudate in the interlobar and interlobular septums of the pleura and (*d*) gangrene of the lung and bronchiectatic cavities following secondary changes in intrapulmonary abscesses

5 In the epidemic of 1918 pneumonia was virtually constant both in point of incidence and in conformation to type In the recurrent disease, pneumonia was a relatively infrequent event and the anatomic varia-

ries in the distribution and structure of the lesions were so numerous that no two sets of lungs were similar in appearance, and often one lung differed markedly from its fellow

6 In the pandemic disease of 1918, acute degenerative changes in the heart muscle, liver and kidneys were neither frequent nor intense In the recurrent disease, they were both common and severe In the pandemic, the blood cultures were almost invariably sterile in the epidemic, streptococcal septicemia occurred, we estimate, in about 10 per cent of all pneumonias

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YELLOW FEVER CONTROL IN ECUADOR

PRELIMINARY REPORT

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The files of the National Board of Health of Ecuador show that the first recorded epidemic of yellow fever in the country occurred in the city of Guayaquil in the year 1842, and it was estimated at that time that one half of the population of the city died from this disease during the epidemic

Yellow fever was probably introduced into Ecuador from Panama by the earlier settlers soon after the appearance of the disease at Panama, and has probably been present in Ecuador since that time, notwithstanding the fact that the records of the sanitary department report as many as three consecutive months in one year having passed without a single recognizable case of the disease It undoubtedly was present, but in a type so benign as not to be easily diagnosed, especially in children

The Gorgas commission of the International Health Board in a world survey for endemic yellow fever centers reported that this disease could be "eradicated from the west coast of South America by eradicating it at Guayaquil, Ecuador," and recommended that the attack be made by destroying the stegomyia breeding places in that city

Arrangements were entered into with the Republic of Ecuador for a cooperative campaign with its national health agency on the following basis

1 The National Board of Health of Ecuador would supervise the isolation of yellow fever patients and fumigation of houses as might be attempted

2 The International Health Board would concentrate its efforts on mosquito proofing the necessary water receptacles, that is to say, antilarvae measures

The built-up area of Guayaquil occupies about 3 square miles, has a population of 90,000, and contains nearly 6,000 buildings The average annual rainfall is 60 inches, and occurs principally during the months of January, February, March and April — a relatively short and light rainy season for a tropical city The elevation of the city above mean tide is about 2 meters, and the topography is that of a plane

The water supply is taken from a river about 90 kilometers northeast of the city The present supply provides for 40 liters per capita each day and is delivered from storage tanks through a system of mains for about four fifths of the city area The ration of water is available in the morning for one and one-half hours only That part of the city in which it is not possible to make house connections is served by water venders and from public taps or fountains

The scarcity of water, therefore, makes it obligatory on the residents to store sufficient water for their needs in tanks, barrels and like receptacles

ANTILARVAE MEASURES

That yellow fever is a place disease is a generally accepted fact The spot map of yellow fever cases occurring in the city of Guayaquil during the year 1918 brings this out quite clearly, and shows that the vast majority of cases reported up to November of that year occurred in the most densely populated section of the city, or rather in that section in which houses had been erected without any intervening space A survey of this district revealed the important fact that the vast majority of homes were supplied with from one to twelve water tanks each, in addition to the barrels and smaller receptacles, while the outlying districts depended almost entirely on smaller receptacles, very few tanks being used Many of the tanks inspected were uncovered or so badly covered that the mosquito experienced no difficulty whatever in gaining access to the water within The barrels and other receptacles were all uncovered All tanks inspected on this survey were found to contain the stegomyia larvae, the smaller receptacles were also breeding places, more especially for the culex and in two instances I noted stegomyia larvae in tanks, while in barrels in the same room only culex larvae could be found

The stegomyia is essentially a house mosquito, that is to say, it breeds, lives and dies in the same house, it does not fly for any considerable distance, and it avoids bright sunlight, only under rare circumstances is it to be found breeding in streets, yards or fields, at least in Ecuador, and up to now we have not found this extraneous breeding of sufficient importance to be considered a factor in the present campaign

The antilarvae measures were started Nov 25, 1918, and were based on the findings of the early survey The first step was to mosquito-proof all tanks as soon as possible, and the organization concentrated its efforts on this work during the earlier weeks of the campaign

A graph to be published later will show that yellow fever cases decreased rapidly as the tanks were made mosquito-proof, and when the number of breeding places in tanks were reduced to 5 per cent of the total number inspected, the disease had been controlled, but was not considered eradicated This reduction was taking place during the height of the rainy season and while receptacles of water, other than tanks, still remained stegomyia breeding places

Nearly all tanks used in the city for conserving water are made in the country, are rectangular, and have a capacity of from 10 to several hundred gallons The water enters the tanks from above, the inlet pipe resting on the top of one side of the tank, the outlet pipe is usually from 1 to 2 inches above the level of the tank floor, and even when the tanks are empty, so far as getting any water from them by means of the faucet is concerned, there always remains enough water in the tank for an ideal breeding place for the mosquito This fact explains in part why tanks are a more desirable breeding place for the mosquito this class of water container is seldom without water, and the surface of the water is disturbed only during the morning for one hour or so

In the barrels and the smaller containers, conditions are not so favorable for the mosquito, as the water is always taken from these containers by means of a pail or large cup and always from above, consequently, during daylight hours there is considerable movement of the water surface which is not conducive to the selection of this class of receptacle as a breeding place by a mosquito of the habits of the stegomyia, and further, there comes a time rather frequently in the dry season when the barrel and similar receptacles are empty by reason of the scarcity of water or for purposes of cleaning the container, a condition that does not obtain with tanks, at least with the same frequency. It is fair to assume that if the stegomyia mosquito can exercise the instinct for self preservation, it will select and even hunt for water in a tank in which to deposit her eggs as offering a more favorable opportunity for the development of same as contrasted with chances in a barrel or similar receptacle.

The present campaign has been based on the thought that with a reduction of stegomyia mosquito breeding in water tanks there should be a reduction in the number of cases of yellow fever, and that if the effort is continued the disease will be eradicated. All containers of fresh water in or near human habitation have been treated, but the thought to be conveyed is that the tanks as water containers have been given first consideration.

There are nearly 7,000 water tanks in use in the city and nearly 30,000 other containers to be inspected. The tanks have been covered with either copper screen, galvanized iron, or wooden covers. Of the three classes of covers, the galvanized iron has proved the most satisfactory and the cheapest, they do not admit of contamination of the water by rats, which is possible with copper screening, nor can they be taken and used for fire wood, as sometimes happens with wooden covers.

Great care is taken that the tanks are so covered that the mosquitoes cannot gain entrance to the water within. We impress on the people that the mosquito is a small insect and naturally can penetrate a small opening. Tanks with perfectly fitting covers are sealed, bearing the stamp of the service in a manner that the cover of the tank cannot be raised without breaking the seal, and a broken seal indicates to the inspector that a careful inspection of the tank must be made to determine whether the cover has been off long enough for the mosquito to deposit her eggs within.

Public opinion for the work was created through the press, public lectures, posters, handbooks, etc. Yellow fever had so long handicapped and actually retarded the progress of Guayaquil and Ecuador that the public was ready to cooperate in any measure that would aid in the control of this disease, and this effort has been most intelligent and constant. Owing to the scarcity of water, especially in the dry season, it was highly desirable that we should adopt some measure that would free the water containers of mosquito larvae and at the same time conserve the water to the people and accomplish this result economically. We experimented with different species of fish to determine their usefulness as mosquito larvae consumers.

The first variety of fish used is known locally as the "huanjas," a member of the perch family. This fish readily eats mosquito larvae but soon tires of its existence in a barrel or small receptacle and will jump 3 and sometimes 4 feet to free itself from the container. The jumping properties are most often exhibited during the night. It will be readily seen that even when people are willing and anxious to conserve the fish in their water containers, they can hardly be expected to watch them during the night. To counteract this jumping, the service supplied covers for the barrels, but here again we encountered difficulty in keeping the covers on the barrels, and there are good local reasons why it was not desirable to insist that all barrels be equipped with covers and the water drawn off by faucet. We were forced to abandon the huanjas on account of its jumping, for the chata, a small fish which proved to be a voracious eater of mosquito larvae. It has the additional property of spending the greater part of its time at the surface of the water, but when any one approached the container the chata would immediately swim to the bottom, remaining there until the cause of its fright had been removed.

The chalaco also was tried out and has given very good results. Top minnows or "millions," were given a trial, and are quite satisfactory for certain class of containers. These fish are very delicate and do not survive long in the ordinary container unless some care is given to them. As long as fish are available, they will be used for all containers other than tanks.

The present campaign was actually started, Nov. 25, 1918, with twelve sanitary districts. The number of districts was gradually increased up to twenty-nine. This number was maintained for a few months, when reduction was permissible. Oct. 1, 1919, the city was redivided into ten sanitary districts. The inspection cycle was arranged so that every home in the city should be visited at least once every seven days, including Sundays. Sanitary inspectors started in their districts on Monday, and those not able to conclude on Saturday were aided by auxiliary squads.

On the farms outside the city of Guayaquil, all large containers were eliminated, and as these farms are usually located on the river and the homes of the laborers on the banks of the river, it was decided to recommend that receptacles holding not more than 5 gallons of water be used in place of barrels. It had previously been observed that the vast majority of the laborers do not use in their homes more than 5 gallons of water in twenty-four hours. Bathing, washing of clothes, etc., is usually done in the river, so that there is really no need for conserving water longer than twenty-four hours in the homes. By this method it is believed that the stegomyia mosquito can be eliminated in those areas where this measure can be put in force.

Death and Blindness Caused by Wood Alcohol.—Owing to the heavy increase recently noted in the number of deaths and cases of blindness resulting from the drinking of wood alcohol by those ignorant of its dangers, the National Committee for the Prevention of Blindness, 130 East Twenty-Second Street, New York, is sending broadcast special warnings of the tragic consequences which may follow the use of wood alcohol, denatured alcohol and medicated alcohol for beverage purposes. The harmful action of this poison comes not only from taking it internally, but may likewise be induced by breathing its fumes and by absorption through the mucous membranes of the body. Its effect is usually noticeable very shortly after exposure. Within a few hours after drinking, acute headache is noted, usually accompanied by violent attacks of vomiting, body pains extending over the region of the kidneys, and excessive dizziness. Vision may become impaired, total blindness occur and death itself result.—*Illinois Health News*, October, 1919.

ARTERIAL HYPERTENSION [*]

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NEW YORK

The great importance of arterial hypertension or the conditions associated with it, as a widespread and apparently increasing cause of disability and death, is a self-evident incentive to investigation At the same time it must be recognized that our knowledge of the subject is in a very confused state, as respects its phases of etiology, mechanism and treatment Just as with diabetes, the literature contains almost every conceivable variety of opinions and suggestions The first task of an investigator to choose is what seems significant and valuable among this mass of conflicting material, and the second is to build concrete facts with accurate methods in a clinical field which is still largely a morass of tradition and imagination

THEORIES REGARDING THE CAUSES OF HYPERTENSION

More or less restriction of salt has been employed for many years by some observant clinicians in the treatment of the various forms of nephritis The first scientific foundation of both theoretical and practical importance is afforded by the work of the French school, beginning with Widal's demonstration of the role of the chlorids, particularly in the causation and treatment of edema, and with the application of this principle to hypertension by Ambard,[1] Combe,[2] Laufer and others Similar results were obtained in arteriosclerosis by Bayer,[4] but with only a few exceptions the tests with nephritis in Krehl's clinic were negative or doubtful, and the general German experience was opposed to a strict relationship between retention of chlorids and elevation of blood pressure[5]

In American literature, salt and fluid restriction in hypertension is mentioned casually and incompletely if at all, and the protein intoxication theory is undoubtedly the dominant one Treatment consists chiefly in low protein diets, the elimination of supposed toxins, or the artificial reduction of pressure by drugs, bleeding, electricity, and the like Mental and bodily rest is advised to a degree which largely terminates usefulness in life, and many conservative practitioners refrain from any serious attempt to reduce the pressure, and devote themselves to keeping the patient as comfortable as possible, with resignation as to the results

There are various reasons for this confusion and pessimism In the German work the cases were not always well chosen and the restriction of salt was generally inadequate, though this work does furnish evidence against any invariable association of hypertension and gross chlorid retention On the other hand, whether or not protein has any influence on blood pressure, it is impossible to accept Ambard's assertion that it is harmless in nephritis Ambard considers fluid restriction unnecessary, and in adopting milk diet he comes back to the identical therapeutic program used by the followers of the intoxication hypothesis The fluid restriction of Laufer, who accepts von Noorden's limit of a liter daily without reckoning the important additional quantities contained in the food, is too lax for the worst cases Likewise a much stricter exclusion of salt than represented by milk diet is essential for results in really severe cases These inaccuracies are responsible for an unnecessarily high percentage of cases of absolutely or relatively irreducible hypertension in French, German, American and all other records, and also for the unnecessarily frequent and early deaths from apoplexy, cardiac failure, pulmonary edema and convulsions (misnamed uremic) For the same reason there have been no differences in therapeutic results sufficiently marked to establish any one theory to the satisfaction of all parties

RESTRICTION OF WATER AND SALT

It would be wrong to ignore the unknown and uncontrollable factors in hypertension and the unsolved problems which they present But any practitioner who will conform his treatment to one reasonable and definite condition, namely, the necessity of the organism to force a filtrate of water and dissolved substances through a damaged and partially blocked glomerular filter, can readily demonstrate for himself the compensatory element in the hypertension, by observing the fall in pressure and the relief of some attendant symptoms when proper diet reduces the quantity of this filtrate to a minimum The opposite treatment under the intoxication hypothesis, through unsuitable diets and attempts at "flushing out," entails much harm In some hypertension cases the mere reduction of the overload of salt and water brings relief which is comparable to the benefits of diet in diabetes

Fuller laboratory study, particularly by blood analyses, contributes new information of theoretical, prognostic and therapeutic importance Among the nephritic cases treated in our clinic to date, there have been twenty examples of marked hypertension Most of these were treated in private hospital status, but four were outpatients The observations are necessarily empiric, and are subject to modification from wider clinical experience, and particularly to more fundamental and decisive interpretations when animal experiments become available Numerous data of these cases, function tests according to Ambard's principles, and details of individual histories and results, must be reserved for a more complete publication at a later date

It may suffice here to state that the patients' ages ranged from 25 to 69 years, with the usual predominance of those past 40 All the cases were of chronic type Their severity was mostly too great to yield to mere rest and hospital care, and some were known as highly severe cases which had proved intractable to a variety of customary treatments for several years Bleeding was used temporarily in three critical cases, and brief experiments have been tried with some other measures, but in general the patients were not kept in bed or confined to the house but were treated entirely by diet

To establish the general principle, the effects of sudden dosage with salt or water in suitable cases are illustrated by two experiments

In the first experiment (Table 1), attention may be called to the absence of real retention of either salt or water (contrary to the French reports), and to the remarkably high plasma chlorid figures[6] and the elevation of blood pressure accompanying these

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[*] Read before the American Society for Experimental Pathology Cincinnati Dec 30 1919

[*] Preliminary communication based on a clinical study in collaboration with Drs J W Mitchell and J W Sherrill

[1] Ambard L These de Paris 1905 Semaine med 26 361 1906

[2] Combe A Monatsschr f Kinderh 4 13 82 1905

[3] Laufer R J Compt rend Soc de biol 56 249 1904

[4] Bayer R Arch f exper Path u Pharmakol 57 162 1907

[5] Loeb A Deutsch Arch f klin Med 85 348 1905 1906 Brodski J Berl klin Wchnschr 43 906 1906 Deutsch Arch f klin Med 93 310 1908 Lowenstein C Arch f exper Path u Pharmakol 57 137 1907

The second experiment (Table 2) was performed on a different patient The plasma chlorid percentage was not high, and fell lower with the water drinking, while the blood pressure rose markedly

The first patient received salt, but showed no effect from a corresponding test with water alone Because of the close relations between salt and water, it is difficult to distinguish accurately between their effects, and space requirements necessitate leaving other tests to a later publication The rise in pressure in both cases was accompanied as usual by the subjective symptoms of headache, dizziness, weakness and general malaise Precautions were taken so that no patients suffered harm from such tests, but in severe cases there is danger that the reckless administration of either salt or water may cause alarming symptoms and even death The accuracy of the tests is often interfered with by a protective diarrhea which also prevents dangerous disturbances

TABLE 1—SALT TOLERANCE TEST SEPT 25 1919

Time	Water Given, C c	Urine Vol C c	Urine Sp Gr	Urine NaCl %	Urine NaCl Gm	Plasma Chlorids Mg per 100 C c	Blood Urea Mg per 100 C c	Blood Pressure Systolic	Blood Pressure Diastolic
8 a m	200							202	104
9 a m	200	65	1 011	0 72	0 47				
10 a m	200	410	1 006	0 30	1 21				
11 a m *	200	305	1 007	0 34	1 03	672	19 6	200	100
12 m	200	120	1 008	0 44	0 53	672	19 6	198	94
1 p m	200	160	1 015	1 1[illegible]	1 84	684	19 6	194	98
2 p m	200	105	1 016	1 21	1 27	676		224	100
3 p m	200	120	1 016	1 30	1 [illegible]	704		242	110
4 p m	200	210	1 007	0 90	1 88			266	110
5 p m	200	500	1 007	0 44	2 20			238	100
6 p m	200	250		0 60	1 49	648		210	100
6 p m to 8 a m	550	830	1 009	0 41	3 40	644	19 6	182	80
Total	2 750	3 275			16 87				

* Ten grams of sodium chlorid were given at 11 a m

The results of a short test may be negative in some patients or at some stages, and bad effects may become evident only after some days The effects of salt are in general more powerful and obvious as demonstrated by the success of Ambard and others in numerous cases A very close restriction of water may be impracticable at the beginning of treatment, because of the salt stored in the patient's body and the inadvisability of imposing any real suffering from thirst Also in many cases no rigid fluid restriction is necessary and moderate quantities (from 1 to 3 liters daily) may be actually beneficial for flushing out salt or nitrogen But the prolonged combination of excessive fluid and little salt possibly involves osmotic and eliminative difficulties which are responsible for the anasarca, pulmonary edema and cardiac failure sometimes described in connection with long continued salt-poor diet

TABLE 2—WATER TEST NOV 19 1919

Time	Water Given C c	Plasma Chlorids Mg per 100 C c	Blood Urea Mg per 100 C c	Blood Pressure Systolic	Blood Pressure Diastolic
8 30 a m		[illegible]71	30 2	215	130
8 40 to 9 20 a m	1 000				
9 25 a m				2[illegible]6	128
9 20 to 9 50 a m	600				
9 55 a m				24[illegible]	130
10 00 to 11 10 a m	1 400				
11 15 a m				238	140
11 [illegible]0 a m to 12 20 p m	800				
12 30 p m		43	23 [illegible]	2[illegible]4	1[illegible]0
2 2[illegible] p m				2[illegible]	12[illegible]
4 00 p m				188	100
5 00 p m				190	100
9 30 a m				200	120

No rigid classification, either anatomic or functional, of the cases listed in Table 3 was attempted partly because the experience is insufficient and partly because every case of nephritis is in some respects an individual problem, in which tests of the efficiency of different functions should be made and individual treatment prescribed accordingly Different tests will give different classifications and there are presumably types of cases not shown in this series The phenolsulphonephthalein excretion is given here as one indication of renal action, but the complete publication will include other function tests The data shown are otherwise limited to those which seemed most essential for treatment and prognosis The order of cases is not merely consecutive or accidental but forms a series based on these data

TABLE 3—EFFECTS OF DIETETIC TREATMENT IN TWENTY CASES OF HYPERTENSION

Case No	Phenolsulphonephthalein Excretion in 2 Hrs %	Before Treatment Plasma Chlorids Mg per 100 C c	Before Treatment Blood Urea Mg per 100 C c	Before Treatment Blood Pressure Systolic	Before Treatment Blood Pressure Diastolic	After Treatment Plasma Chlorids Mg per 100 C c	After Treatment Blood Urea Mg per 100 C c	After Treatment Blood Pressure Systolic	After Treatment Blood Pressure Diastolic
1		6[illegible]4	29 2	208		569	28 0	1[illegible]3	98
2	54 5	640	27 1	(300)					
				215	170	588	20 0	134	70
3	54 0	670	21 8	240	110	541	24 [illegible]	140	80
4	4[illegible]8	610	19 8	210	120	586	21 2	160	9[illegible]
5	36 0	[illegible]20	20 [illegible]	240	110	[illegible]90	10 4	160	[illegible]
6		670	23	220	140	556	23 [illegible]	178	9[illegible]
7	46 0	608	32 [illegible]	19[illegible]	92	[illegible]91	20 9	162	80
8	48 0	613	30 7	220	98	570	[illegible]8	110	80
9		611	32 6	2[illegible]0	70	[illegible]76	16 2	130	60
10	41 3	612	47 0	2[illegible]0	110	5[illegible]	31 4	1[illegible]4	80
11	4 0	[illegible]66 (62[illegible])	69 4	[illegible]12	104	556	52 6	156	80
12	30 2	664	91 4	210	120	598	20 4	172	100
13		[illegible]	104	198	100	[illegible]	[illegible]	90	60
14	5 0	648	124 0	[illegible]14	170	[illegible]7	42 [illegible]	140	100
15		[illegible]97	27 1	190	92	[illegible]0		108	70
16	38 2	509	30 4	190	90	[illegible]9	14 6	1[illegible]	100
17		534	16 7	210	100	[illegible]3	56 2	180	9[illegible]
18	27 4	576	5[illegible] 0	235	14	543	[illegible]3 [illegible]	1[illegible]0	95
19	12 1	548	58 2	(30[illegible])					
				21	170	[illegible]0	18 0	180	130
20	64 8	565	[illegible]1 0	[illegible]34	160	559	19 4	180	120

* Parentheses in the systolic pressure column indicate that the pressure in these cases was repeatedly near 300 m m but the actual pressure on beginning dietetic treatment was 21[illegible] In Case 19 this reduction had been accomplished only by heavy bleeding in another hospital

CASES OF PURE HYPERTENSION

The first cases are more or less typical examples of so-called pure hypertension One of them (Case 2) had been observed for over a year and occasional urinalyses even when the blood pressure was as high as 300 m m, never showed albumin In recent months with more frequent urinalyses traces of albumin have sometimes been found The others of this group have traces of albuminuria Omitting individual peculiarities it may be said that this group is characterized by activity of excretion and apparent absence of retention in tests with nitrogen water and even salt The kidney retains power to concentrate, and both the blood urea and the urea function according to the Ambard principle may be fully normal But the chlorid threshold whether determined mathematically or by salt privation is high and these patients purchase their apparent efficiency of salt excretion at the price of abnormally high blood salt and blood pressure Extraordinary strictness of salt-free diet may be necessary to control these and the therapeutic success corresponds to the restriction in salt intake This single feature imtimes makes the difference between health and invalidism While protein and water create no symptoms, on general principles they should be limited to some extent Without assuming that all possible kinds of cases are represented in this list, and without overlooking other abnormalities revealed by sufficiently thorough study, it can be stated that pure hypertension, so far as it has occurred in this series, has been essentially a salt nephritis

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[6] For chlorid method see Donleavy J J T Biol Chem 37 [illegible]1 (April) 1919

HYPERTENSION WITH KIDNEY IMPAIRMENT

As all standards of kidney function are to some extent arbitrary, this group passes by gradual transition into the second and larger group, in which there is obvious impairment of several kidney functions, as indicated by retention of urea and other products, impaired excretion of urea and chlorids by Ambard s laws, more or less fixation in the chlorids and specific gravity of the urine, and especially chlorid retention with or without evident edema

The degree of impairment in the nitrogen economy calls for corresponding restriction of protein, and influences the prognosis But the hypertension is affected only through the salt and water functions Careful fluid restriction is necessary as a rule, but attention should be given to the nitrogen retention thus entailed in certain toxic cases This is an additional reason for limiting the protein intake, though it is well known that the percentage of blood urea is not an infallible index of danger Even though chlorid retention be far greater than in the first group and the other signs more evident as stated, the actual chlorid threshold may be lower and the actual salt restriction required to control the pressure may be less stringent in the second group

It is well known that retained salt may be diffused through edema fluid without raising the percentage in the blood Patient 11 thus had much edema, and as this diminished, the chlorid percentage in the blood rose as shown in parentheses With this proviso, the great majority of these cases had high chlorids in the blood plasma, and it is probable that the same will hold for the majority of all hypertension cases But in appoaching Group 3, we find a small group of hypertension patients with continuously low blood chlorids and low chlorid threshold, and often with normal or actually low blood urea

HYPERTENSION WITH DIABETES OR SEVERE NEPHRITIS

The six closing cases of this table may be divided into two groups of three each The first group includes three cases (15 16 and 17) of diabetes In them the prognosis is good with thorough treatment of the diabetes, sometimes with the aid of salt and water restriction and sometimes without it Though there are presumably rare cases of intractable hypertensive nephritis associated with diabetes, there is generally the strong probability that proper treatment, associated with reduction of the blood sugar, will reduce the hypertension

The last three cases of the table are nondiabetic, and have proved the most difficult and intractable of the entire series Limitation of salt, protein and fluid, reducing the twenty-four hour urine volume below 300 c c, has given symptomatic relief and more or less complete checking of retinitis, but the influence on the pressure has on the whole been slight and the reduction shown in the table has not been permanent Notwithstanding the innocent looking blood analyses, according to function tests these are cases of severe nephritis, and the worst element in their prognosis from the standpoint of hypertension seems to be the absence of a high blood chlorid before treatment

LIMITATIONS IN TREATMENT

Certain precautions or limitations should be mentioned with regard to the practical application of these principles in treatment

First, a diet which is reasonably satisfying and at the same time sufficiently poor in salt is not so easy to arrange as it may appear Both physician and patient may sometimes believe conscientiously that strict abstinence from salt has been maintained, when analyses will show the blood chlorids undiminished and an output of from 5 to 10 gm in the twenty-four hour urine Such analyses are important for controlling the treatment, and no pressure is rightly called irreducible unless the daily chlorid excretion has been reduced to practically zero

Second, some quantity of salt is considered indispensable in the permanent ration This is stated as about 2 gm for normal persons, but the limits for nephritics have never been determined On the one hand, it is not certain that the intake need be as great when the output is obstructed On the other hand, there may be danger in withdrawing salt from certain nephritics, especially with nitrogen retention, who seem to need much more than 2 gm of salt for its diuretic action to ward off uremia As a rule, the outstanding effect of undue salt privation has been weakness It is necessary, therefore, to work out salt rations for individual nephritics which may range from almost zero to a considerable quantity

Third, restriction of salt or fluid, like every dietetic treatment of organic disease is only palliative Success is not as uniform as in the treatment of diabetes, and complete or partial failures are more numerous When the first results are more or less satisfactory, there is still reason to fear that the same patients may pass into a hopeless condition in the course of months or years Futhermore, the most effectual relief of the hypertension demonstrates strongly that the essential trouble is more than mechanical Reduction of the blood pressure nearly or completely to normal may still leave the patient an invalid, either from weakness due to the strict salt privation which is necessary to hold down the pressure, or still worse, if salt is given so as to allow the pressure to go up They may also be subject to attacks of hypertension and accompanying symptoms from little or no evident cause The greatest defect of the French work is the disposition of those authors to treat the entire question as a mere mechanical matter of salt retention Obviously, even the mechanics of hypertension remains largely unsolved, and the fundamental condition thus far baffles both research and treatment

Notwithstanding these limitations, the benefit of suitable chlorid restriction for hypertension is still great, in making the patients more comfortable, diminishing the danger of apoplexy, and possibly checking the progressiveness of the disorder So many of these patients give a history of copious use of salt that this may be a possible contributory factor Granting a primary infectious or toxic etiology of the renal or vascular damage, the prolonged irritation by the excess of salt and the wear and tear of the hypertension itself may well be regarded as a cause of progressive aggravation By far the best and easiest results are obtainable in the earliest cases, when the hypertension is intermittent rather than continous Early diagnosis is therefore important, and in advance of the sphygmomanometer it may be hoped that chemical tests, such as for the blood chlorids and chlorid threshold (the normal values for which are still undecided), may give advance warnings to guide prophylaxis

Such studies may also throw some light on the origin and the control of arteriosclerosis and some other disorders One of the most interesting branches of the investigation has concerned ophthalmic disorders, and with the cooperation of several oculists, evidence has been gathered indicating that many cases of retinitis are due chiefly or solely to chlorids and are benefited by chlorid restriction More cases of retinitis and of glaucoma are needed for this study The promising study of salt metabolism will probably soon be extended more widely by those who are in position to undertake parallel determinations of various salts and to develop the more fundamental problems through animal experiments The present investigation, which has had to be self-supporting to date, has been limited and superficial for lack of these things The clinical facts collected, however, warrant urging that unfounded theories be discarded, the widespread abuse of drugs, particularly nitrites and iodids, stopped, and the possibilities of modern laboratory methods utilized for the guidance of treatment

5 East Fifty-First Street

INFECTION BY THE BROAD TAPEWORM DIPHYLLOBOTHRIUM LATUM *

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SOUTH BEND IND

While cases of infection by the broad tapeworm have been rather frequently reported in the United States in recent years, and most of them like the present one, have occurred in immigrants who have acquired the infection abroad, yet because of the probability of the permanent establishment of this parasite in this country, it is desirable to record each case with as many details as possible

The worm here recorded was casually handed to me in the early part of January of this year The dark spots in each mature segment had been noticed, but the true nature of the parasite had not been fully appreciated The specimen had been washed from the feces with which it was expelled by the patient The head is lacking, although many of the immature segments immediately following the head are present The specimen is in several pieces, and the combined length of them laid out without traction on a table is 6,230 mm All the segments appear in excellent condition, and none appear atrophic or degenerated

The patient presented almost no symptoms

REPORT OF CASE

B N, man aged 39 Russian Jew, machinist born at Bielostok, Poland where he resided until he was about 19 years of age spent the next six years including the time of the war between Russia and Japan and while with the Russian army, at various places in Siberia, such as Omsk Tomsk Irkutsk and Yakutsk During these six years he ate much uncooked fish Although much fish had been eaten during his youth at Bielostok he thinks it was well cooked by his mother After the six years spent in Siberia he returned to Bielostok, and soon after came to the United States In this country he spent one year in New York, six years in Chicago, and six in South Bend, Ind He first knew he had a tapeworm eight years before while he was living in Chicago, his knowledge being based on the fact that he passed fragments from 12 to 18 inches in length These fragments appeared to him well preserved, and he says that they showed motility He found segments only at the time of defecation He never noticed any segments passed while he was in the Old World but he suggested that, being younger, perhaps he was a careless observer and did not pay so much attention to himself The patient said that he had always been well and had never consulted a physician until he wished the worm expelled in the latter part of December 1919 and except when being examined for life insurance He passed the insurance examination successfully About three months before seeking treatment for tapeworm he had obscure abdominal distress and he had another attack at the time he sought treatment He consulted Dr C C Terry of this city by whom he was given aspidium A few days later when he had recovered from the effects of medication the worm was submitted to me for identification I was unable to get the patient for a blood examination until nearly two weeks after the worm had been expelled Blood examination then revealed erythrocytes 5 148 000, leukocytes 6 400 hemoglobin 85 per cent Sahli, polymorphonuclears 56 per cent small lymphocytes, 28 per cent, large lymphocytes 7 per cent, large mononuclears 2 per cent, transitionals 3 per cent eosinophils 3 per cent, basophils, 1 per cent The patient has the appearance of being in perfect health and looks strong and robust

COMMENT

There can be little doubt that this patient became infected with a broad tapeworm while living at Bielostok, which is one of the general regions where such worms are common, or in Siberia where he knows he ate uncooked fish He may have acquired it in this country, but that is very doubtful

That the patient is and has always been robust shows that an anemia is not necessarily caused by the presence of this parasite The fact that he passed well preserved and easily recognized segments is rather unusual[1] The absence of anemia, and the good condition of the segments passed as well as of the entire worm as subsequently passed, are in accord with the views that diseased or disintegrating worms are [illegible] chief cause of the anemia due to the absorption o products from disintegrating segments[2]

This case has afforded an excellent opportunity [illegible] the parasite to become permanently established in [illegible] region of the United States For the past six [illegible] many thousands of eggs must have entered the [illegible] age system of South Bend, very soon to reach [illegible] Joseph River and a short time later Lake [illegible] In both river and lake, hatching larvae mu[illegible] able to parasitize various fishes

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* From the laboratory of the Clinic

[1] Brumpt E Precis de parasitol[illegible] Ed 2 [illegible]

[2] Brumpt Précis de parasitol[illegible] 263

Probabilities as to When the Fir[illegible] According to Knibbs statistician [illegible] ability of a nuptial first birth occ[illegible] after marriage is 0 4946 for age [illegible] age 18, 0 9176 for age 21 the [illegible] 25 0 9075 for age 30 0 6748 [illegible] and 0 0622 for age 4[illegible] The [illegible] the supposition that the hus[illegible] age as the wife If he is [illegible] probability will be affec[illegible]

SQUAMOUS-CELL EPITHELIOMA OF THE LIP

A STUDY OF FIVE HUNDRED AND THIRTY-SEVEN CASES *

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Of all the malignant neoplasms with which man is afflicted, few cause more concern and inconvenience than that of epithelioma of the lip In the past, pathologists have been content to classify cancer of the lip as cancer, without any distinction as to the degree of malignancy It is a well established fact that some cancers of the lip are fatal to patients and others are not There must be a reason for this One theory is that some persons are resistant to cancer, and this seems to be borne out in a certain percentage of cases

Undoubtedly, a large proportion of cancer cells are destroyed by the defense cells of the body, of these, the fibrous connective tissue cell is the most important, since it cuts off nourishment from the cancer cells

The endothelial leukocyte and lymphocyte evidently also play an important role in the destruction of cancer cells for practically always they may be seen in the neighborhood of a cancerous growth Foreign body giant cells that are most probably formed from the endothelial leukocytes are not infrequently found lying adjacent to cancer cells

The most important factor in squamous-cell epithelioma of the lip seems to be the degree of cellular activity The cells of some epitheliomas of the lip show a marked tendency to differentiate, that is, to produce a growth similar to the normal, the pearly body is an example The pearly body corresponds to the horny layer of the epidermis In other squamous-cell epitheliomas there is no differentiation whatever In the large majority of growths whose cells show no tendency to differentiate, or at least very little, there are many mitotic figures

In studying these epitheliomas, therefore, it occurred to me that they should be graded according to differentiation and mitosis, special stress being laid on the former The grading was made on a basis of 1 to 4, and absolutely independent of the clinical history If an epithelioma shows a marked tendency to differentiate, that is, if about three fourths of its structure is differentiated epithelium and one fourth undifferentiated, it is graded 1, if the differentiated and undifferentiated epithelium are about equal, it is graded 2, if the undifferentiated epithelium forms about three fourths and the differentiated about one fourth of the growth, it is graded 3, if there is no tendency of the cells to differentiate, it is graded 4 Of course the number of mitotic figures and the number of cells with single large deeply staining nucleoli (one-eyed cells) play an important part in the grading

Some epitheliomas of the lip are very active and from the start show little or no tendency to differentiate, some grow more malignant with time, and others increase in malignancy and then retrogress Unquestionably an epithelioma of a low grade of malignancy is made more malignant by irritation with chemicals such as hydrochloric or nitric acid, silver nitrate or arsenic paste

Chronic ulcers of the lip, like chronic ulcers of the stomach, should be examined very closely for cancer, provided syphilis has been eliminated MacCarty [1] has demonstrated early cancer in the epithelium at or near the edge of gastric ulcers, practically the same process is found in early cancer or ulcer of the lip In the lip the cancer starts in the stratum germinativum of the epithelium at or near the border of the ulcer Not all cancers of the lip are preceded by ulcers, but the majority are

I shall present the facts in statistical form and make the deductions, not from one, but from various standpoints (1) the duration and size of the lesion, (2) the

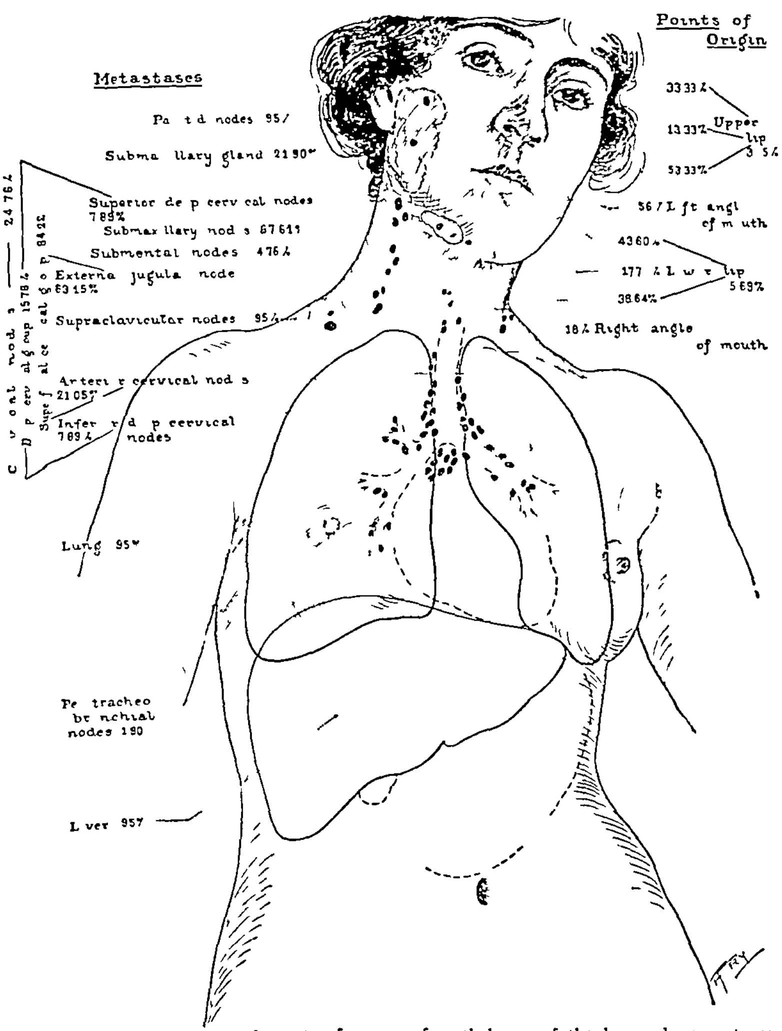

Fig 1—Percentages of points of origin of epithelioma of the lip and percentages of location of meta tasis

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* From the Section on Surgical Pathology, Mayo Clinic

* Presented before the Richmond Academy of Medicine and Surgery Richmond Va Nov 25 1919 and before the Roanoke Academy of Medicine Roanoke Va Dec 1 1919

[1] MacCarty W C Pathology and Clinical Significance of Gastric Ulcer From a Study of Material from Two Hundred and Sixteen Partial Gastrectomies for Ulcer Ulcer and Carcinoma and Carcinoma Surg Gynec & Obst 10 449 462 1910

use or nonuse of tobacco, (3) the use or nonuse of caustics, pastes or plasters, etc, before treatment at the clinic, (4) metastasis or no metastasis, (5) cellular activity, and (6) other points of general interest

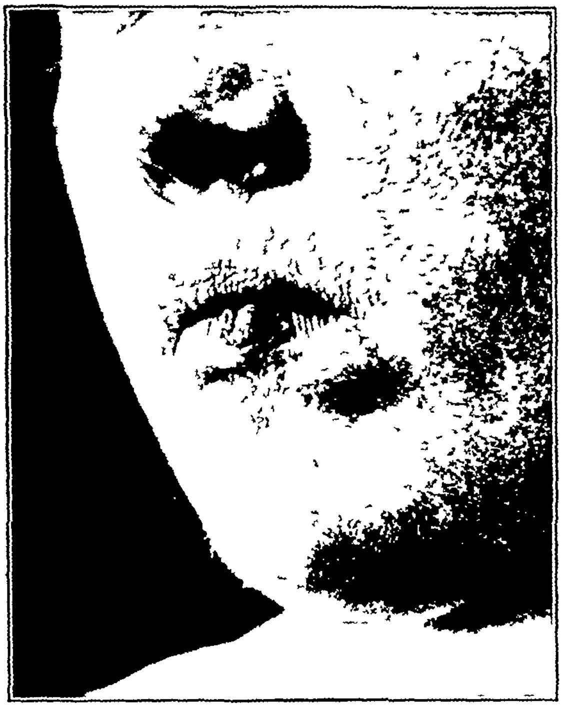

Fig 2 (a 188878) —Typical elevated or wartlike epithelioma of the lip

CONCLUSIONS

1 The 537 cases of squamous-cell epithelioma of the lip in this series represent 26.85 per cent of 2,000 cases of general epithelioma

2 Squamous-cell epithelioma of the lip occurs more often in males than in females, the proportion is 49 1 It occurs in patients past middle life, their average age is 57.3 years

TABLE 1—SQUAMOUS-CELL EPITHELIOMA OF THE LIP FIVE HUNDRED AND THIRTY SEVEN CASES (26.85 PER CENT OF TWO THOUSAND CASES OF GENERAL EPITHELIOMA)

Patients	537	
		Per Cent
Males	526	(97.95)
Females	11	(2.05)
Age		
Youngest patient		21
Oldest patient		97
Average age of patients		57.3
Occupation		Per Cent
Farmer		56.7
Laborer		9.0
Merchant		3.93
Traveling salesman		2.87
Railroad employee		2.87
Carpenter		2.68
Lawyer		1.34
Blacksmith		1.15
Clerk		1.15
Other occupations 59 each below 1 per cent		18.4
Family history of malignancy		14.9
Previous lesion at site of cancer		
Sore or ulcer (coldsore 10.6 per cent)		63.3
Crack		4.1
Leukoplakia		3.7
Tobacco		
Patients using tobacco		80.49
Patients not using tobacco		19.51
Females using tobacco (smoke)		45.45
Females not using tobacco		45.45
Methods of using tobacco		
Patients who smoke only		69.82
Patients who chew only		6.31
Patients who smoke and chew		23.5
Patients who use snuff		0.35

TABLE 1—*Continued*

	Per Cent.
Total number of smokers	93.33
Total number of chewers	29.82
Total number of snuffers	0.35
Methods of smoking	
Pipe only	40.69
Cigars only	19.18
Pipe and other methods and with chewing	37.79
Cigars with other methods and with chewing	31.97
Total number of pipe smokers	78.48
Total number of cigar smokers	51.16
Total number of cigaret smokers	1.16
History of injury	8.38
	Years
Average duration of lesion	2.58
Longest duration of lesion	28.00
Shortest duration of lesion	0.08
	Cm
Greatest diameter	12.5
Average greatest diameter	2.4
Origin of lesion	Per Cent.
Lower lip	95.69
Upper lip	3.55
Left angle of mouth	0.56
Right angle of mouth	0.18
Lower lip	
Left lower lip	43.60
Right lower lip	38.64
Middle lower lip	17.75
Upper lip	
Left upper lip	53.33
Right upper lip	33.33
Middle upper lip	13.33

TABLE 2—FIVE HUNDRED MEN WITHOUT EPITHELIOMA OF THE LIP

Average age years	36.07
	Per Cent.
Users of tobacco	78.6
Nonusers of tobacco	21.4
Methods of using tobacco	Per Cent
Smoke only	82.95
Chew only	4.32
Smoke and chew	12.72
Snuff	0.20
Total number of smokers	95.67
Total number of chewers	17.04
Total number of snuffers	0.20
Methods of smoking	
Pipe only	6.11
Cigars only	16.48
Cigarets only	26.32
Pipe and other methods and chewing	31.91
Cigars and other methods and chewing	42.02
Cigarets and other methods and chewing	30.05
Total number of pipe smokers	38.03
Total number of cigar smokers	58.51
Total number of cigaret smokers	5[illegible].04

3 The disease occurs most often in farmers, they represent 56.7 per cent of the cases

4 A family history of malignancy plays a negligible part

5 The site of the cancer was preceded by a sore or an ulcer in 63.3 per cent of the cases

6 About one fifth of all the patients do not use tobacco, while one half of the female patients do not use it

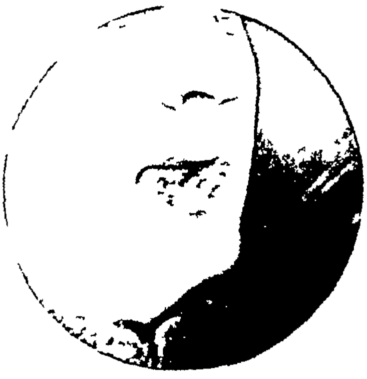

Fig 3 (a 265421) —Typical depressed or ulcer like epithelioma of the lip

7 Of the patients using tobacco 93.33 per cent smoke, 78.48 per cent of these use a pipe

8 A comparison of 500 men without epithelioma of the lip with the 537 patients with [illegible]thelioma of t[illegible] shows that the percent[illegible] t[illegible] users, tobacco users is prac[illegible] 6

users and 21 4 per cent nonusers in the former group, and 80 49 per cent users and 19 51 per cent nonusers in the latter group, but that the average age of the men without epithelioma of the lip is about nineteen years less than the average age of the patients with epithelioma of the lip at the time of onset

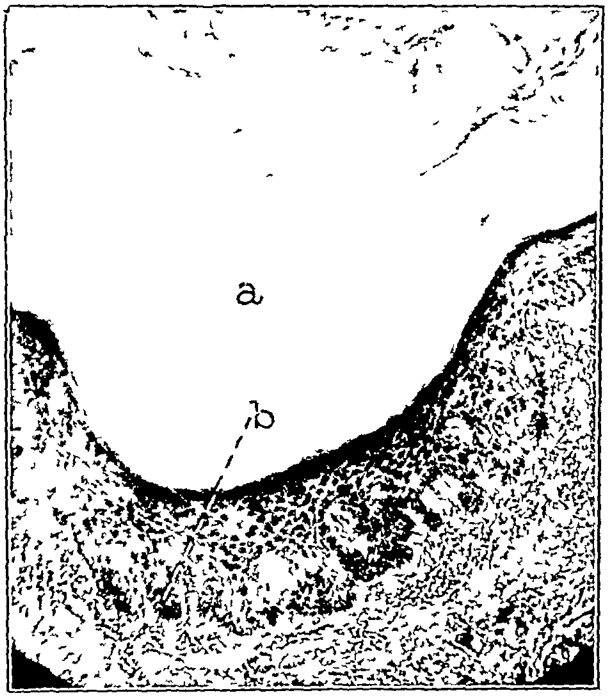

Fig 4 (a 21283) —Marked leukoplakia of the lip characterized by increase of (*a*) horny layer of epidermis and (*b*) basal layer

9 The most remarkable difference in a comparison of the patients with epithelioma of the lip and the men without epithelioma of the lip is in the method of smoking The total number of pipe smokers in the former is 78 48 per cent and the total number of cigaret smokers is only 1 16 per cent, while in the latter the total number of pipe smokers has dropped to 38 03 per cent, and the total number of cigaret smokers has risen to 59 04 per cent

10 A history of injury plays a negligible part

TABLE 3—TREATMENT ELSEWHERE IN SQUAMOUS CELL EPITHELIOMA OF THE LIP

	Per Cent
Nonsurgical	
1 One or more treatments alone or in various combinations of acids carbon dioxid copper sulphate electricity mercury paste or plaster potassium iodid radium roentgen ray scarlet red shoemakers wax and silver nitrate	29 05
2 Paste or plaster alone or in combination with other nonsurgical treatments	51 28
3 Caustics (acids or silver nitrate) alone or in combination with other nonsurgical treatments	35 89
4 Roentgen ray alone or in combination with other nonsurgical treatments	18 58
5 Paste or plaster alone or in combination with other nonsurgical treatments (proportion of all epitheliomas of lip)	14 89
6 Caustics (acids or silver nitrate) alone or in combination with other nonsurgical treatments (proportion of all epitheliomas of lip)	10 42
7 Roentgen ray alone or in combination with other nonsurgical treatments (proportion of all epitheliomas of lip)	5 4
Surgical	
1 One or more operations	17 87
2 Excision of growth from lip without removing lymph nodes	53 12
3 Excision of V from lip without removing lymph nodes	5 2
4 Excision of growth and one or more groups of lymph nodes	16 66
5 Excision of V from lip and one or more groups of lymph nodes	6 25
6 Miscellaneous	18 75
Surgical and nonsurgical	
1 One or more operations and one or more treatments with acids carbon dioxid etc alone or in various combinations	4 65
2 Operations without treatment with acids, carbon dioxid etc before or after operation	13 22
3 Treatment with acids carbon dioxid etc, without operation	24 39
4 Operation and treatment with acids carbon dioxid etc	37 61

TABLE 4—PATIENTS OPERATED ON AT THE MAYO CLINIC

	No
Cases (96 07 per cent of 537)	516
1 Excision of submental lymph nodes, submaxillary lymph nodes and salivary glands of both sides and V shaped excision of epithelioma of the lip (one operation) (39 34 per cent of 516)	203
2 V shaped or quadrilateral shaped excision of epithelioma of the lip (10 85 per cent. of 516)	56
3 Excision of submental lymph nodes submaxillary lymph nodes and salivary glands of both sides and quadrilateral shaped excision of epithelioma of the lip (one operation) (4 84 per cent of 516)	25
4 Excision of submental lymph nodes and submaxillary lymph nodes and salivary glands on one side, and V shaped excision of epithelioma of the lip (one operation) (3 29 per cent of 516)	17
5 Unilateral block dissection (one operation) (2 9 per cent. of 516)	15
6 Miscellaneous (various combinations of operations cauteries excisions of specimens for diagnosis at one time or at different times) (38 76 per cent of 516)	200
REMOVAL OF LYMPH NODES AND SALIVARY GLANDS	
Cases	449
1 Submental lymph nodes (97 1 per cent of 449)	436
2 Submaxillary lymph nodes and salivary glands (unilateral) (12 91 per cent of 449)	58
3 Submaxillary lymph nodes and salivary glands (bilateral) (84 18 per cent of 449)	378
4 Cervical lymph nodes (16 7 per cent of 449)	75
5 Block dissections (alone or combined with other operations) (10 02 per cent of 449)	45
6 Cases in which the lymph nodes were removed months or years after the removal of the epithelioma of the lip (2 44 per cent of 449)	11
7 Lymph nodes removed (one or more groups) (87 01 per cent of 516)	449
8 Cases in which no lymph nodes were removed (12 98 per cent of 516)	67
PATIENTS WITH INOPERABLE EPITHELIOMA	
Cases (3 9 per cent of 537)	21

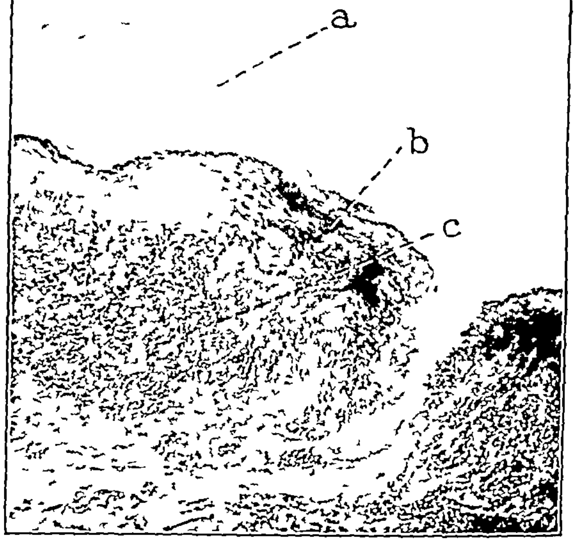

Fig 5 (a 152243) —Ulcer associated with a leukoplakia of the lip *a* leukoplakia *b* junction of epidermis and ulcerated area *c* lymphocytes

11. The duration of the lesion shows a marked variation, from 0.08 years to 28 years, with an average of 2.58 years.

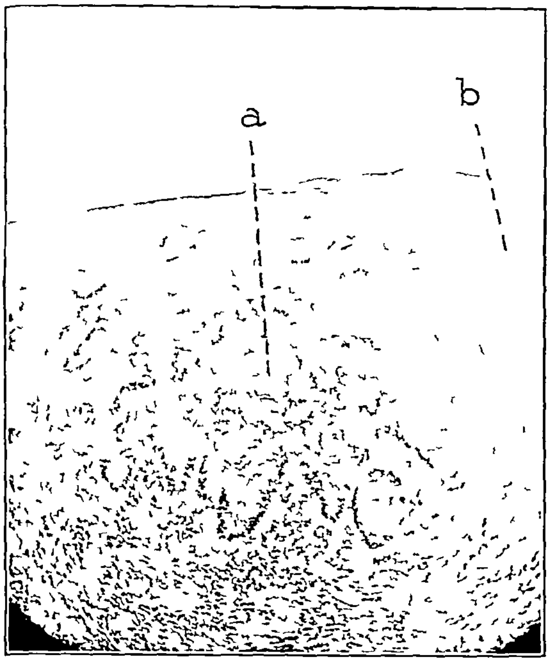

Fig. 6 (a 98158).—Grade 1 epithelioma of the lip with marked differentiation; low degree of malignancy; patient well five years after operation; *a*, epithelioma; *b*, normal epithelium.

12. The greatest diameter of any lesion is 12.5 cm., the average 2.4 cm.

13. The lesion originated on the lower lip in 95.69 per cent. of the cases, on the upper lip in 3.55 per cent., at the left angle of the mouth in 0.56 per cent., and at the right angle of the mouth in 0.18 per cent.

TABLE 5.—PATHOLOGIC FINDINGS IN CASES IN WHICH LYMPH NODES AND SUBMAXILLARY SALIVARY GLANDS WERE REMOVED

	No.	Per Cent
Cases	449	
No metastasis found	344	76.62
Metastasis found	105	23.38
Submaxillary lymph nodes alone (one side)	44	41.90
Submaxillary lymph nodes and salivary glands (one side)	13	12.38
Submaxillary lymph nodes (one side) and submental lymph nodes	7	6.66
Submaxillary lymph nodes, salivary glands and superior superficial cervical lymph nodes (one side)	6	5.71
Submental lymph nodes alone	5	4.76
Submaxillary lymph and superficial cervical lymph nodes (one side)	6	5.71
Submaxillary lymph nodes (both sides) and submental lymph nodes	5	4.76
Submaxillary lymph nodes (both sides), submental and anterior jugular lymph nodes (one side)	3	2.85
Miscellaneous (submaxillary lymph nodes and salivary glands, submental, cervical, parotid, supraclavicular and peribronchial lymph nodes, lung and liver alone or in various combinations	16	15.23
Submaxillary lymph nodes, total involvement	92	87.61
Submaxillary salivary glands, total involvement	23	21.90
Submental lymph nodes, total involvement	26	24.76
Cervical lymph nodes (one or more groups)	26	24.76
Superior deep cervical nodes	3	7.89
Inferior deep cervical nodes	3	7.89
External jugular nodes	24	63.15
Anterior cervical nodes	8	21.0
Supraclavicular nodes, total involvement	1	0.95
Parotid lymph nodes, total involvement	1	0.95
Peribronchial nodes, total involvement	2	1.90
Lung, total involvement	1	0.95
Liver, total involvement	1	0.9
Submaxillary lymph nodes, total involvement on both sides	13	12.38
Cervical nodes, total involvement on both sides	2	1.90

TABLE 6.—GRADE OF FIVE HUNDRED AND THIRTY-SEVEN CASES ON A BASIS OF 1 TO 4 ACCORDING TO CELLULAR ACTIVITY

	No.	Per Cent
Grade 1	85	15.82
Grade 2	333	62.01
Grade 3	113	21.04
Grade 4	6	1.11

DURATION AND SIZE OF EPITHELIOMA ACCORDING TO GRADE

	Grade 1	Grade 2	Grade 3	Grade 4
	Years	Years	Years	Years
Longest duration	10.00	2[illegible].00	28.00	2.00
Shortest duration	0.10	0.08	0.08	0.91
Average duration	1.43	2.77	3[illegible]	1.[illegible]9
	Cm.	Cm.	Cm.	Cm.
Largest size	5.00	10.00	[illegible]	2.00
Smallest size	0.20	0.30	0.20	1.80
Average size	1.23	2.28	[illegible]	1.9

EPITHELIOMA PRECEDED BY ULCER

	No.	Per Cent
Grade 1	52	15.29
Grade 2	225	66.17
Grade 3	60	17.64
Grade 4	3	0.88

PROPORTION OF EACH GRADE PRECEDED BY ULCER

Grade 1	61.17 per cent. of 85
Grade 2	67.56 per cent. of 333
Grade 3	53.09 per cent. of 113
Grade 4	50.00 per cent. of 6

INOPERABLE EPITHELIOMA ACCORDING TO GRADE

Grade 1	Grade 2	Grade 3	Grade 4
0	12	7	2

14. Twenty-nine and five hundredths per cent. of the patients were treated with acid, paste or plaster, etc., before they entered the clinic.

15. Seventeen and eighty-seven hundredths per cent. of the patients were operated on before they entered the clinic.

16. Ninety-six and eight hundredths per cent. of the patients were operated on at the clinic.

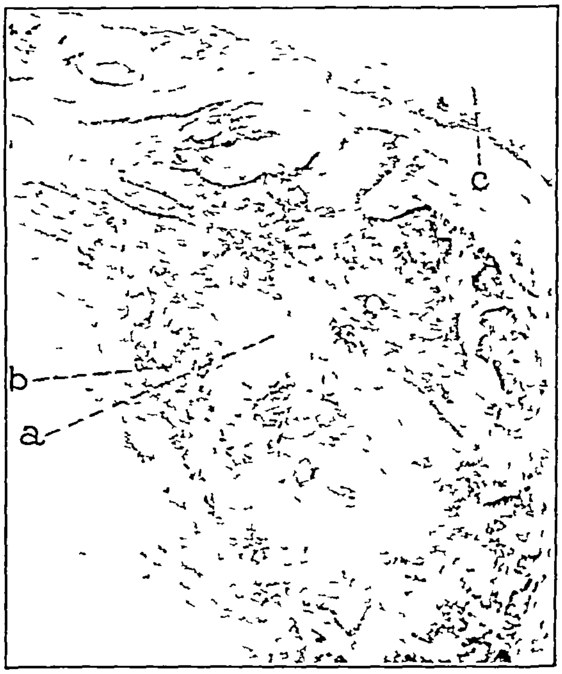

Fig. 7 (a 64092).—Grade 1 epithelioma of the lip showing marked differentiation, although it is of a slightly higher degree of malignancy than the epithelioma shown in Figure 6; patient well seven years after operation; *a*, completely differentiated area; *b*, partially differentiated cells; *c*, normal epithelium.

17. In 87.01 per cent. the regional lymph nodes were removed.

18 Of the 449 cases in which the lymph nodes or salivary glands were removed, metastasis was demonstrated in 23 38 per cent , the submaxillary lymph nodes were involved in 87 61 per cent , the submaxillary salivary glands in 21 90 per cent , the submental lymph

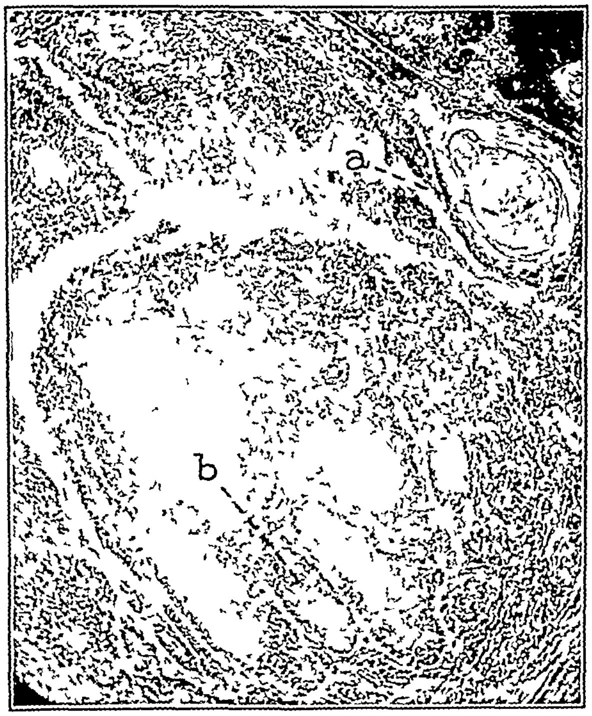

Fig 8 (a 99884) —Grade 2 epithelioma of the lip not so much differentiation as in epithelioma shown in Figure 6 patient died from epithelioma of the lip four and one half years after operation a completely differentiated area or pearly body b undifferentiated cells

TABLE 7 —RESULTS

GENERAL ULTIMATE RESULTS

Patients traced (operable 306, inoperable, 8) (58 47 per cent of total)	314
Patients operated on	306
Patients dead (40 52 per cent)	124
Patients alive (59 47 per cent)	182
Good result (no recurrence (92 85 per cent of 182)	169
Fair result (slight recurrence) (6 04 per cent of 182)	11
Bad result (no improvement) (1 09 per cent of 182)	2

DURATION OF LIFE SINCE LAST OR ONLY OPERATION ACCORDING TO RESULT

	Good Result Years	Fair Result Years	Bad Result Years
Longest	14 39	13 68	2 80
Shortest	1 25	0 96	0 49
Average	7 76	6 8	1 65

MORTALITY

Deaths (42 05 per cent of 314)	132
Deaths of patients with operable epithelioma (93 93 per cent of 132)	124
Deaths of patients with inoperable epithelioma (6 06 per cent of 132)	8

TABLE 7 —*Continued*

CAUSE OF DEATH OF PATIENTS OPERATED ON DATA FROM RELATIVE HOME PHYSICIAN, OR PATHOLOGIC RECORDS OF THE CLINIC

	No	Per Cent.
Known cause	99	
Cancer of the lip	63	63 63
Heart disease	5	5 05
Nephritis	5	5 05
Pneumonia	4	4 04
Stomach trouble	3	3 03
Paralysis	3	3 03
"Following operation elsewhere	3	3 03
Fall	2	2 02
Carcinoma of the stomach	1	1 01
Tumor of the stomach	1	1 01
Abdominal tumor	1	1 01
Diabetes	1	1 01
Carcinoma of the sigmoid	1	1 01
Sepsis	1	1 01
Tuberculosis	1	1 01
Hepatic disease	1	1 01
Cardiac and hepatic disease	1	1 01
Sarcoma of the liver	1	1 01
Lung trouble	1	1 01
Unknown	25	

CAUSE OF DEATH OF PATIENTS WHO DIED IN THE MAYO CLINIC (ALL OPERABLE)

Chronic nephritis and arteriosclerosis (more than 2 years after operation)	1
Epithelioma and abscess of the neck (52 days after operation)	1
Epithelioma (25 days and 4 months respectively after operation)	2
Pneumonia (few days after operation)	3
Sepsis (12 days after operation)	1
Total (1 55 per cent of 516)	8
Actual operative mortality (0 77 per cent of 516)	4

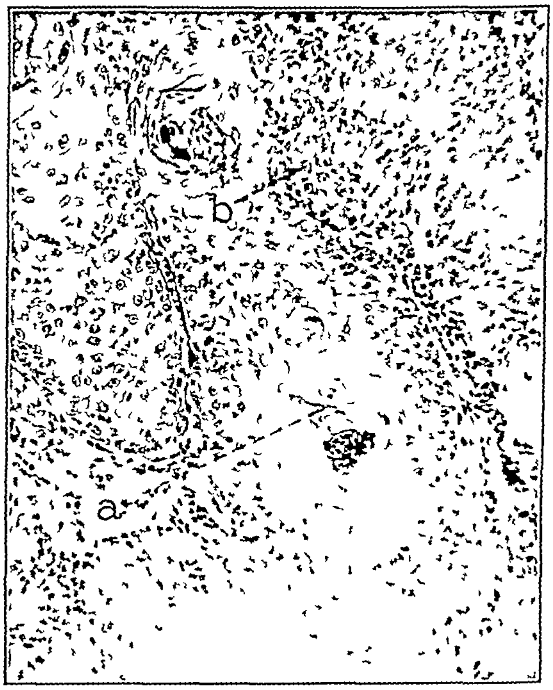

Fig 9 (a 59017) —Grade 2 epithelioma of the lip about the same degree of malignancy as in epithelioma shown in Figure 7 patient well more than seven years after operation a partially differentiated cells b undifferentiated cells

TABLE 8 —TOBACCO USERS OPERATED ON

	Grade 1	Grade 2	Grade 3	Grade 4
Number of patients	37	118	37	3
Patients living	34 (91 81% of 37)	92 (77 96% of 118)	10 (27 02% of 37)	
Patients living good result	33 (97 05% of 34)	85 (92 39% of 92)	10 (100% of 10)	
Patients living fair result	1 (2 94% of 34)	6 (6 52% of 92)		
Patients living poor result		1 (1 08% of 92)		
Patients dead	3 (8 10% of 37)	26 (22 63% of 118)	27 (72 97% of 37)	3 (100% of 3)
Cause unknown		6	5	1
Good result	2 (66 66% of 3)	6 (30 00% of 20)	7 (31 81% of 22)	
Fair result	1 (33 33% of 3)			
Poor result		14 (80 00% of 20)	15 (68 18% of 22)	2 (100% of 2)

	Per Cent
Total good result (patient recovered from epithelioma and is living, or recovered from epithelioma and died from other cause)	78 14
Total fair result (patient living with slight recurrence or died from other cause)	4 37
Total poor result (patient lived with no improvement or died from epithelioma)	17 48

TABLE 9—NONUSERS OF TOBACCO OPERATED ON

	Group 2	Group 3	Group 4
Number of patients	7	37	7
Patients living	6 (85.71% of 7)	29 (78.37% of 37)	4 (57.14% of 7)
Patients living good result	6 (100% of 6)	29 (100% of 29)	2 (50.00% of 4)
Patients living, fair result			2 (50.00% of 4)
Patients dead	1 (14.28% of 7)	8 (21.62% of 37)	3 (42.85% of 7)
Cause unknown		1	
Good result	1 (100% of 1)	5 (71.42% of 7)	
Poor result		2 (28.57% of 7)	3 (100% of 3)

TOTAL RESULTS

	Per Cent
Total good result (patient recovered from epithelioma and is living or recovered from epithelioma and died from other cause)	86.00
Total fair result (patient living with slight recurrence)	4.00
Total poor result (patient died from epithelioma)	10.00

TABLE 10—PATIENTS OPERATED ON TREATED WITH PASTES PLASTERS ACIDS ETC BEFORE ENTERING THE CLINIC

	Grade 1	Grade 2	Grade 3	Grade 4	
Patients concerning whom information has been received					94
Patients living (53.19 per cent of 94)					50
Patients living good result	5 (11.11% of 45)	34 (75.55% of 45)	6 (13.33% of 45)		
Patients living fair result		1 (33.33% of 3)	2 (66.66% of 3)		
Patients living poor result		1 (50.00% of 2)	1 (50.00% of 2)		
Patients dead					44 (46.80% of 94)
Cause unknown		4	3		
Good result		5 (55.55% of 9)	4 (44.44% of 9)		
Poor result		9 (32.14% of 28)	16 (57.14% of 28)	3 (10.71% of 28)	

TOTAL RESULTS

Total good result (patient recovered from epithelioma and is living or recovered from epithelioma and died from other cause)	62.06% of 87
Total fair result (patient living with slight recurrence)	3.44% of 87
Total poor result (patient living with no improvement or died from epithelioma)	34.48% of 87

TABLE 11—PATIENTS OPERATED ON NOT TREATED WITH PASTES PLASTERS ACIDS ETC BEFORE ENTERING THE CLINIC

	Grade 1	Grade 2	Grade 3	Grade 4	
Patients concerning whom information has been received					212
Patients living (61.79 per cent of 212)					131
Patients living, good result	34 (27.64% of 123)	83 (67.47% of 123)	6 (4.87% of 123)		
Patients living fair result	1 (12.50% of 8)	7 (87.50% of 8)			
Patients dead					81 (38.20% of 212)
Cause unknown		10	9	1	
Good result	4 (16.00% of 25)	17 (68.00% of 25)	4 (16.00% of 25)		
Fair result	1 (100.00% of 1)				
Poor result		18 (51.30% of 35)	17 (48.45% of 35)		

TOTAL RESULTS

Total good result (patient recovered from epithelioma and is living or recovered from epithelioma and died from other cause)	77.08% of 192
Total fair result (patient living with slight recurrence or died from other cause)	4.68% of 192
Total poor result (patient died from epithelioma)	18.22% of 192

TABLE 12—PATIENTS WITH METASTASIS OPERATED ON

Patients concerning whom no information was received	36 (34.29% of 105)
Patients from whom information was received	69 (65.71% of 105)
Patients living	12 (17.39% of 69)

	Grade 1	Grade 2	Grade 3	Total Number of Good Results
Patients living good results*		5 (50% of 10)	5 (50% of 10)	10 (83.33% of 12)
Patients living fair result*			1 (100% of 1)	
Patients living, poor result*			1 (100% of 1)	

DURATION OF LIFE OF PATIENTS WITH GOOD RESULT FROM LAST OR ONLY OPERATION

Longest	11.73 years
Shortest	3.29 years
Average	6.18 years

	Grade 1	Grade 2	Grade 3	Grade 4	
Patients dead					57 (82.6% of 69)
		15 (34.09% of 44)	26 (59.09% of 44)	3 (6.81% of 44)	

	Years
Longest duration of life from last or only operation of patients who died from epithelioma	2.5
Shortest duration of life from last or only operation of patients who died from epithelioma	0.066
Average duration of life from last or only operation of patients who died from epithelioma	0.79
Longest duration of life from last or only operation of patients who died from epithelioma or other cause	4.88
Shortest duration of life from last or only operation of patients who died from epithelioma or other cause	0.016
Average duration of life from last or only operation of patients who died from epithelioma or other cause	0.86

CAUSE OF DEATH

Epithelioma	44 (91.66% of 48)
Lung trouble	1 (2.08% of 48)
Sepsis	1 (2.08% of 48)
Heart disease	1 (2.08% of 48)
Pneumonia	1 (2.08% of 48)
Not stated	9

* In the ten patients with metastasis who reported a good result and in the one who reported a fair result the submaxillary lymph nodes on only one side were involved In the one patient who reported a poor result the submaxillary lymph nodes and the salivary gland on only one side were involved

TABLE 13—PATIENTS WITH METASTASIS IN SUBMAXILLARY LYMPH NODES ON ONE SIDE ONLY

Patients concerning whom no information was received	14 (30.81% of 44)	Patients living fair result	1 (9.09% of 11)
Patients concerning whom information was received	30 (69.18% of 44)	Patients dead	19
Patients living	11	Patients dead from epithelioma	14 (82.35% of 17)
Patients living, good result	10 (90.9% of 11)	Patients dead from other cause	3 (17.64% of 17)
		Patients dead from cause not stated	2

TABLE 14—PATIENTS WITHOUT METASTASIS OPERATED ON

	Grade 1	Grade 2	Grade 3	Total Number of Good Results
Patients concerning whom no information was received				146
Patients concerning whom information was received				198
Patients living (76.26% of 198)				151
Patients living, good result	35 (25.00% of 140)	99 (70.71% of 140)	6 (4.28% of 140)	140 (92.71% of 151)
Patients living fair result	1 (10.00% of 10)	8 (80.00% of 10)	1 (10.00% of 10)	
Patients living poor result		1 (100% of 1)		
Patients dead				47 (23.73% of 198)
Cause unknown		10		
Good result	3 (12.50% of 24)	18 (75.00% of 24)	3 (12.50% of 24)	
Fair result	1 (100% of 1)			
Poor result		9 (75.00% of 12)	3 (25.00% of 12)	
Total good result (patient recovered from epithelioma and is living or recovered from epithelioma and died from other cause)				164 (87.23% of 188)
Total fair result (patient living with slight recurrence, or died from other cause)				11 (5.85% of 188)
Total poor result (patient living with no improvement or died from epithelioma)				13 (6.91% of 188)

TABLE 15—PATIENTS WITH AND WITHOUT METASTASIS OPERATED ON

	Grade 1	Grade 2	Grade 3	Grade 4
Patients with metastasis		39 (37.14% of 105)	63 (60.00% of 105)	3 (2.85% of 105)
Patients without metastasis	67 (19.47% of 344)	248 (72.09% of 344)	29 (8.43% of 344)	

DURATION OF LESION BEFORE EXAMINATION AT CLINIC

	Years		Years
Longest duration (patient with metastasis)	28.00	Patient without metastasis	25.00
Shortest duration (patient with metastasis)	0.16	Patient without metastasis	0.08
Average duration (patient with metastasis)	3.27	Patient without metastasis	2.40

SIZE OF LESION AT THE TIME OF EXAMINATION AT THE CLINIC

	Cm		Cm
Largest size (patient with metastasis)	12.5	Patient without metastasis	10.00
Smallest size (patient with metastasis)	1.0	Patient without metastasis	0.2
Average size (patient with metastasis)	3.74	Patient without metastasis	2.01

ASSOCIATION OF EPITHELIOMA OF THE LIP WITH OTHER MALIGNANT NEOPLASMS

	Cases
Nonmelanotic melano epithelioma on shoulder	1
Squamous cell epithelioma of cheek	1
Squamous cell epithelioma of bladder	1
Basal cell epithelioma of eyelid	1
Adenocarcinoma of sigmoid	1
	5 (0.93% of 537)

TABLE 16—DURATION OF LIFE AFTER OPERATION OF PATIENTS WITHOUT METASTASIS

ACCORDING TO GRADE

	Grade 1	Grade 2	Grade 3
Good result			
Number of patients	35	98	6
	Years	Years	Years
Longest duration	14.39	14.51	12.22
Shortest duration	1.73	1.25	4.3
Average duration	7.59	7.54	7.17
Fair result			
Number of patients	1	8	1
	Years	Years	Years
Longest duration	4.39	13.68	7.32
Shortest duration		0.96	
Average duration		7.54	

DURATION OF LIFE AFTER OPERATION OF PATIENTS OF ALL GRADES

	Good Result	Fair Result	Poor Result
	Years	Years	Years
Longest duration	10.19		4.51
Shortest duration	0.36		0.51
Average duration	4.47	6.73	1.85

DURATION OF LIFE AFTER OPERATION OF ALL PATIENTS WITHOUT METASTASIS

	Years
Longest duration	10.19
Shortest duration	0.36
Average duration	3.68

DURATION OF LIFE OF PATIENTS OF ALL GRADES

	Good Result	Fair Result
	Years	Years
Longest duration	14.59	13.68
Shortest duration	1.25	0.96
Average duration	7.53	7.2

DURATION OF LIFE AFTER OPERATION OF PATIENTS WITHOUT METASTASIS WHO ARE DEAD

Good result—Patients did not die from epithelioma

	Grade 1	Grade 2	Grade 3
Number of patients	3	18	3
	Years	Years	Years
Longest duration	5.8	10.19	9.3
Shortest duration	3.5	0.36	2.02
Average duration	4.28	4.24	6.07

Fair result—Patients did not die from epithelioma but had slight recurrence

Number of patients	1
	Years
Longest duration	6.93

Poor result—Patient died from epithelioma

	Grade 2	Grade 3
Number of patients	9	3
	Years	Years
Longest duration	4.51	1.52
Shortest duration	1.00	0.51
Average duration	2.15	0.95

nodes in 24 76 per cent, and the cervical lymph nodes in 24 76 per cent

19 In a division of the epitheliomas according to cellular activity, on a basis of 1 to 4, Grade 1 represents 15 82 per cent, Grade 2, 62 01 per cent, Grade 3, 21 04 per cent, and Grade 4, 1 11 per cent

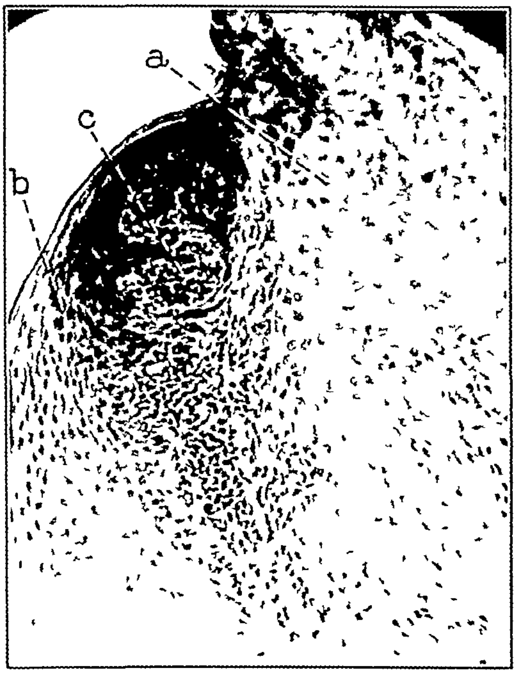

Fig 10 (a 72479) —Grade 2 epithelioma of the lip *a* epithelioma *b* normal epithelium *c* lymphocytes

20 The average duration of the lesion according to grade is longest in Grade 3, 3 33 years, and shortest in Grade 4 1 29 years

21 The average size of the lesion according to grade is largest in Grade 3, and smallest in Grade 1

22 Of the patients operated on and traced, 40 52 per cent are dead and 59 47 per cent are alive

23 Of the living patients 92 85 per cent report a good result, having been free from the disease on an average of 7 76 years

24 Of the patients operated on who have died, concerning whom information has been received, 63 63 per cent died from epithelioma

25 Eight, or 1 55 per cent, of the patients who were operated on died in the clinic, while the actual operative mortality was only 0 77 per cent

26 The users of tobacco who were operated on did not obtain quite so good total good results as the nontobacco users, 78 14 per cent in the former, and 86 per cent in the latter

27 In the inoperable cases, the nontobacco users reached as high as 30 76 per cent

28 The patients who were treated with pastes plasters, etc before entering the clinic did not get such good total good results as those who were not so treated 62 06 per cent in the former and 77 08 per cent in the latter, moreover 31 91 per cent of the former who were operated on had metastasis, while only 19 48 per cent of the latter operated on had metastasis

29 Of the patients with metastasis 17 39 per cent are living and 82 6 per cent are dead

30 Of the living who had metastasis 83 33 per cent report a good result In these patients the submaxillary lymph nodes on only one side were involved

31 No patient with the cervical nodes or more than one group of any lymph nodes involved has been reported living

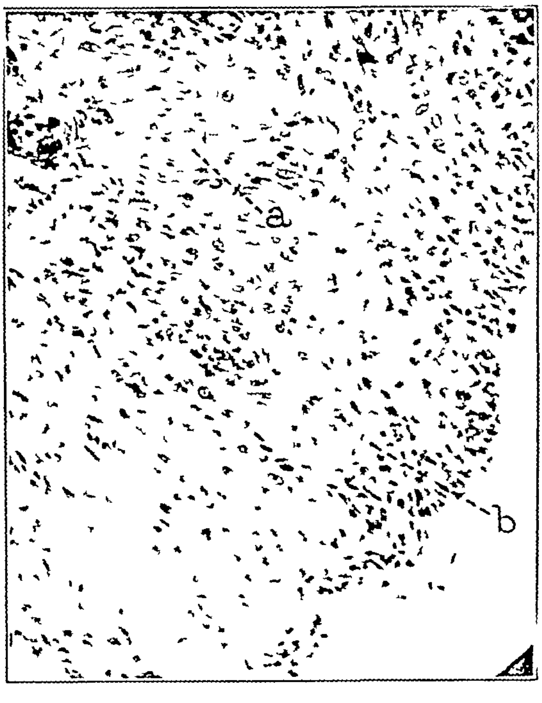

Fig 11 (a 38260) —Grade 3 epithelioma of one of the left submaxillary lymph nodes secondary to epithelioma of the lip slight differentiation the patient died from epithelioma five months after the last operation and twenty months after the onset of the disease *a* partially differentiated cells *b* undifferentiated cell

TABLE 17—RESULTS FOLLOWING OPERATION ACCORDING TO GRADE

	Grade 1	Grade 2	Grade 3	Grade 4
Information received from patients operated on	45 (52 94% of 8)	192 (59 81% of 333)	65 (62 6% of 11)	4 (10 f 4)
Patients living	40 (88 88% of 45)	128 (66 66% of 192)	16 (24 6% of 65)	
Patients living, good result	39 (97 % of 40)	119 (92 96% of 128)	13 (81 25% of 16)	
Patients living fair result	1 (2 5% of 40)	8 (6 25% of 128)	2 (12 50% of 16)	
Patients living poor result		1 (0 78% of 128)	1 (6 2 % of 16)	
Patients dead	5 (11 12% of 45)	64 (33 3 % of 192)	49 (38% of 11)	4 (10 f 4)
Good result	4 (80 00% of 5)	23 (45 09% of 51)	6 (15 78% of 38)	
Fair result	1 (20 00% of 5)			
Poor result		28 (54 90% of 51)	3 (4 21% of 3)	4 (10 %
Not stated		13	11	
Total good result (patient recovered from epithelioma and is living or recovered from epithelioma and died from other cause)	43 (95 55% of 45)	142 (79 32% of 179)	19 (35 1 % of 54)	
Total fair result (patient living with slight recurrence or died from other cause)	2 (4 45% of 45)	8 (4 46% of 1)	2 (3 0% of)	
Total poor result (patient living with no improvement or died from epithelioma)		9 (16 0% of 179)	(61 11% of 54)	4 (1 % of)
Total result not stated		1	11	

32 Of the patients reported dead who had metastasis, 91 66 per cent died from epithelioma

33 If a patient has the submaxillary lymph nodes on one side only involved, he has a 1 to 3 chance of getting a good result, and will be living and well on an average of 6 18 years after operation

34 Of the patients operated on in whom no metastasis was demonstrated, 76 26 per cent are living, and 23 73 per cent are dead, of the living, 92 71 per cent report a good result

35 The average duration of the lesion in the patients with metastasis is 3 27 years, as compared with 2 40 years in those without metastasis, the average size of the lesion is 3 74 cm in the patients with metastasis, as compared with 2 01 cm in those without metastasis

36 Among the known causes of death, deaths from epithelioma were as follows none of Grade 1, 54 90 per cent of Grade 2, 84 21 per cent of Grade 3, and 100 per cent of Grade 4

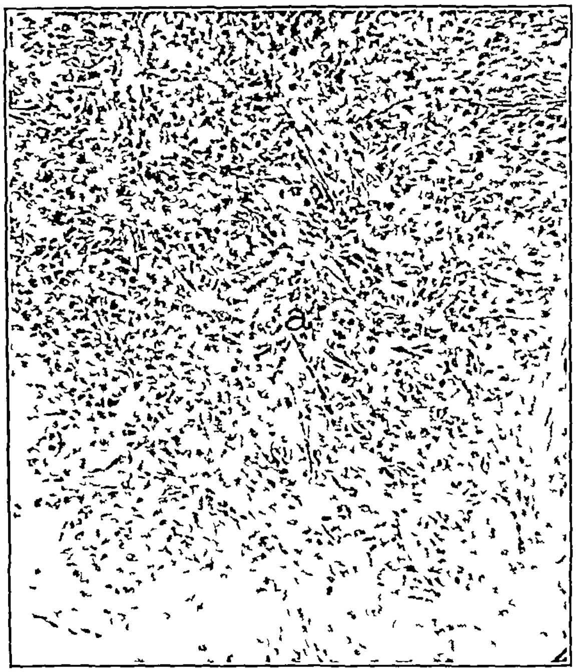

Fig 12 (a 74162) —Grade 4 epithelioma of the liver secondary to epithelioma of the right side of the upper lip no differentiation numerous mitotic figures high degree of malignancy the patient died four and one half months after the last operation and eleven months after the onset of the disease with metastatic epithelioma of the lymph nodes of the right side of the neck right peritracheobronchial nodes, right lung and liver *a* mitotic figures

37 Some malignant neoplasm was associated with the epithelioma of the lip in 0 93 per cent of the patients

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The First Book on Pediatrics—The first book ever published on children's diseases is probably the work by Omnibono Ferrarii, printed in Bruges 1557 The book is in Latin, in quarto, has 196 pages besides three chapters with 12 pages of aphorisms The book is dedicated to the College of Physicians and Philosophers of Verona The dedicatory expresses the view that every person should have two purposes in life First avoid laziness so as not to waste his life and second show his gratitude to the persons from whom he has received any favors According to the author, his book was written after having noticed that the ancient physicians who wrote about children did not say anything about nurses' diseases nor describe methodically the different diseases that might befall children

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THE INTESTINAL TUBE

ITS SIGNIFICANCE AND APPLICATIONS *

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In the descriptions contained in this article, I am dealing primarily with the introduction of the rubber tube into the intestine beyond the duodenum I have therefore taken the liberty of referring to it as an intestinal tube, rather than a duodenal tube, for the latter might imply that its use is limited to the duodenum

The primary purpose of this study of a series of roentgenograms of the intestinal tube in a given case is to demonstrate more clearly the principle of the detachable bulb, as outlined in a preceding communication [1] In that article, I described a modification of the duodenal tube, which, I believe, enhances its usefulness in intestinal feeding In the first place, several openings were made along the course of the tube, up to a distance of about 1½ inches from its end, each opening about the size of its lumen The purpose of this was to minimize the possibility of occlusion which occasionally occurs Of greater value was the change from an end-piece that was *permanently* attached during its sojourn in the intestine, to an end-piece that could be detached shortly after the tube had reached its destination This modification was considered of importance because of the possibilities of danger resulting from a prolonged direct contact of a weighted substance with the delicate intestinal mucous membrane The detachable bulb not only obviates this factor, but as a direct result, makes it possible to use the tube in the intestine over a longer period of time, a factor which might be of value in the more chronic affections I was able to accomplish this modification by sewing the metallic bulb to the end of the rubber tube with catgut Plain catgut was first used, but in a number of cases, owing probably to a contraction of the pyloric sphincter, the tube remained in the stomach for several hours and the gastric secretions had digested the catgut, causing the premature detachment of the bulb Without a weight at the end of the tube, there was a tendency for it to remain coiled within the stomach, the end failing to pass into the intestine After experimenting with different kinds of catgut, I decided on the use of chromicized catgut No 4, as this gave the most satisfactory results

To illustrate this principle more clearly, it was decided to take a series of roentgenograms from the time the tube was swallowed and the end had passed within the intestine, until the bulb had left the intestinal canal

As soon as the clear bile colored fluid was obtained by aspiration, I had a roentgenogram taken, with the result shown in Figure 1 The roentgenogram was taken during the process of injecting a suspension of barium in buttermilk through the open end of the tube by means of a syringe The picture obtained showed the end of the tube within the intestine From then on, roentgenograms were taken at varying intervals, with the idea of obtaining information regarding the time when the detachment of the bulb from the end of the tube occurred, and finally, after the bulb had left the intestinal canal and had been recovered from the stool, a roentenogram was obtained showing only the rubber tube in place

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* From the Medical Service U S Army General Hospital No 41 Col C R Snyder Chief of Staff

[1] Buckstein Jacob Experiences with Duodenal Feeding at U S Army General Hospital No 41 J A M A 73 670 (Aug 30) 1919

This detachment of the bulb is clearly demonstrated in Figure 2, The last plate of this series (Fig 3) was taken after the bulb had been recovered from the stool As a rule, the bulb is recoverable from thirty-six hours to four days after the tube is swallowed In one case, although the bulb became detached within thirty-six hours, the patient did not recover the bulb from the stool until the fortieth day

In examining the series of plates, I noticed an interesting fact In the same patient and with the same length of tubing the outline of the intestine was different in each succeeding picture, although at the time each roentgenogram was taken, the patient occupied the same prone position To demonstrate this change more clearly I had another patient swallow the rubber tube for a distance of 120 cm from the teeth Roentgenograms were taken at varying intervals, as indicated in Figures 4, 5 and 6 Another series (Figs 7, 8, 9 and 10) was taken at a distance of 130 cm from the teeth, and still another series (Figs 11 and 12) at a distance of 150 cm from the teeth In the intervals between the taking of the roentgenograms the patients engaged in the ordinary motions of getting off the roentgen-ray table, walking, sitting down and arising, getting back on the table at the appointed time, and movements of a similar nature In the different pictures of each series I noticed changes in outline, no two being alike although taken with the same length of tube in the same patient and in the prone position

The series of pictures appeared to indicate what may perhaps best be referred to as a shifting motion of the intestinal coils It would seem, on *a priori* grounds, that such a shifting motion must inevitably be expected when we realize that the many coils of intestine attached to the mesentery are freely movable within the abdominal cavity As the tube outlines the intestine, any change in position of the intestine will be indicated by a concomitant change in the position of the tube

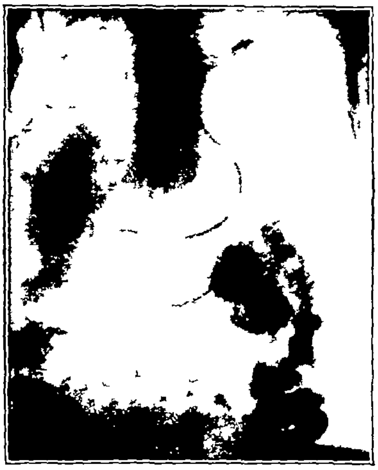

Fig 1—Shortly after the removal of intestinal fluid

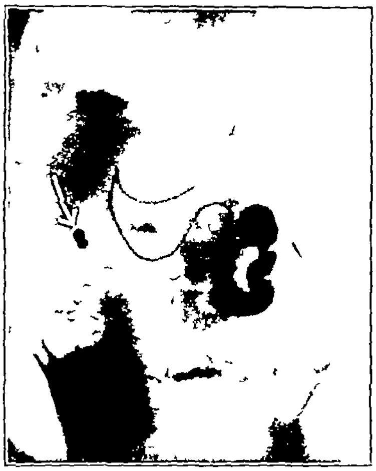

Fig 2—Thirty two hours after swallowing the tube bulb (indicated by arrow) detached

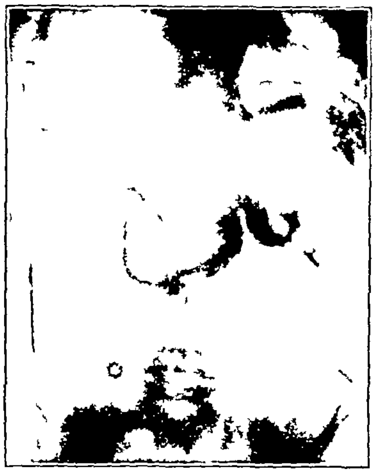

Fig 3—Fifty hours after swallowing the tube and shortly after recovering the bulb from the stool

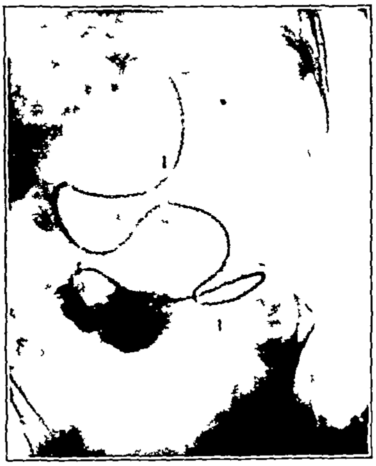

Fig 4—Tube swallowed for a distance of 120 cm from the teeth

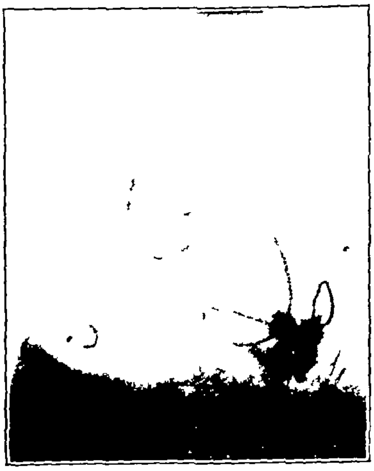

Fig 5—Roentgenogram taken one hour after swallowing the tube

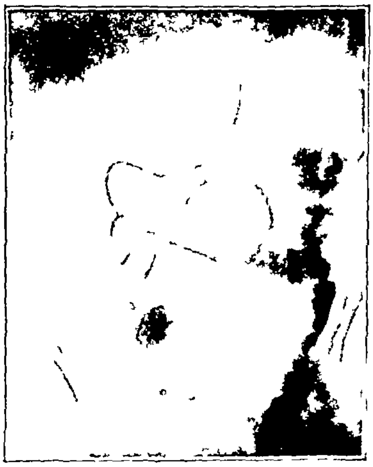

Fig 6—Two hours after swallowing the tube

To determine whether changes in the outline of the coils occurred while the patient continued in the prone position and did not move about betw [illegible] of the roentgenograms a series of plat [illegible] the patient remained prone during [illegible] One picture was taken every five [illegible] course of one hour On exami change in intestinal outline was visible in the different plates

We may assume that the changes in outline in the various series were due to changes in the position of the body in the intervals between the taking of the pictures We may conclude, first, that a roentgenogram of a rubber tube within the intestine gives us an indication of the outline of the intestine only at that particular time, secondly, that there is a continual change in the position of the intestinal coils brought about through bodily motion, and thirdly, that we have here an indication of one specific way in which exercise acts as a therapeutic measure in some cases of chronic constipation

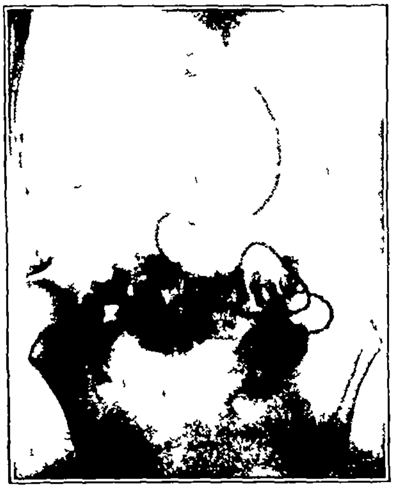

Fig 7 —Tube swallowed for a distance of 130 cm from the teeth

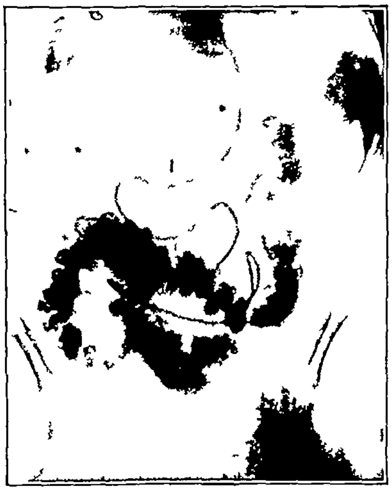

Fig 8 —Five minutes after swallowing the tube

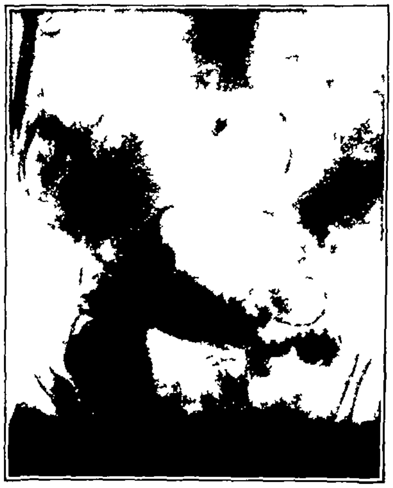

Fig 9 —Fifteen minutes after swallowing the tube

It is a plausible assumption that the movement of the intestinal coils will be increased as the result of the increased bodily motion A marked increase in the shifting of the intestinal coils probably aids in the onward propulsion of material contained within the lumen For this reason, apart from its value in toning up the entire system through its influence on the circulation, exercise is to be advocated where constipation occurs in those of sedentary habits

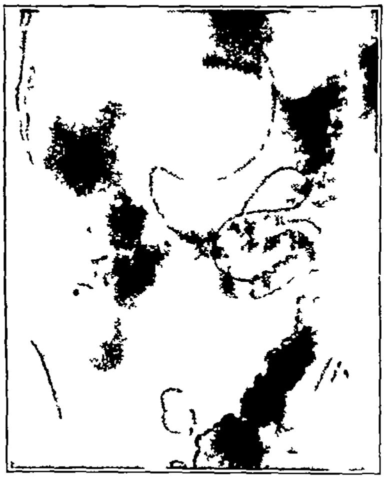

Fig 10 —Two hours after swallowing the tube

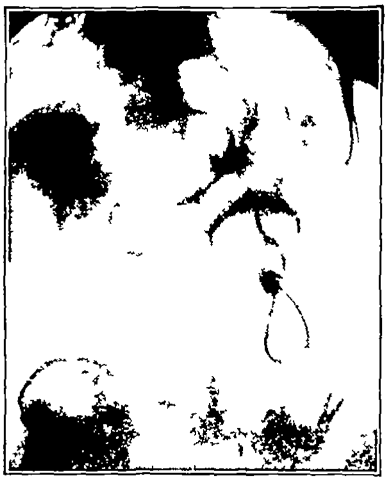

Fig 11 —Tube swallowed for a distance of 150 cm from the teeth

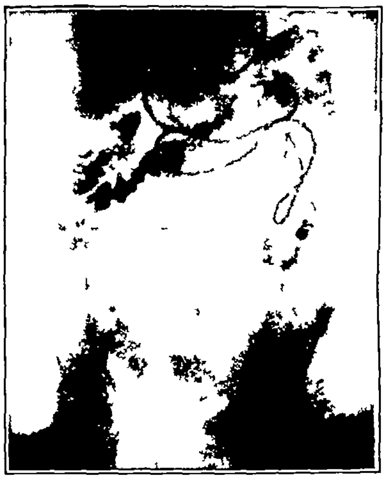

Fig 12 —Twenty four hours after swallowing the tube

While rhythmic segmentation and intestinal peristalsis are the prime factors in the mechanics of digestion, the shifting motion of the intestinal coils, clearly indicated in the illustrations, probably plays a real part in the mechanical process of propulsion

The possibility of the introduction of the end of the rubber tube to different portions of the small intestine widens the field of gastro-enterology from a practical therapeutic standpoint, and also from the standpoint of the biochemistry, bacteriology and parasitology of the intestinal canal Since the end of the tube may pass well within the intestinal canal, the principle of duodenal feeding may be extended in its application to intestinal feeding, which may perhaps find a use in the rare conditions of jejunal and gastrojejunal ulcers that may complicate a gastro-enterostomy, and perhaps also in the case of fistulas that might conceivably occur at different parts of the intestine

The principle of transduodenal lavage was first emphasized by Jutte While our ordinary enemas at best reach only a small portion of the intestinal canal, we have by means of lavage through the intestinal tube a method of cleansing the entire intestinal canal and ridding it of stagnating material Oxygen insufflation, and the introduction of medication through the tube, have also been practiced Not only may lavage and medication be employed in this way, but the ready passage of the tube to varying distances within the lumen of the intestine makes possible the direct introduction of therapeutic agents to definite parts along the course of the intestinal tract

Of interest from a biochemical standpoint is the fact that we may obtain intestinal secretions for examination Hitherto, our analysis of the gastro-intestinal secretions in the living human being has been practically limited to the secretions of the stomach and of the duodenum The value of our results was enhanced through the methods of fractional examination of the gastric secretions as emphasized by Rehfuss, and of the fractional examination of the duodenal secretions emphasized by Einhorn There is no mechanical difficulty in the way of obtaining secretions beyond the duodenum I believe that analysis of these secretions may not only prove of theoretical interest, but also may ultimately throw light on some of the more obscure intestinal derangements

SUMMARY

1 There is a distinct value in the principle of the detachable bulb for the construction of the intestinal tube when used for feeding

2 The intestine is clearly delineated in a roentgenogram by means of the barium filled rubber tube

3 The shifting motion of the intestinal coils as indicated by the changing outline of the rubber tube throws some light on the mechanics of propulsion and on the therapeutic value of exercise in constipation

4 Direct introduction of therapeutic agents is made possible at specific portions of the intestine

5 Secretion from different portions of the intestine below the duodenum may be obtained for the purpose of biochemical, parasitic and bacteriologic examinations

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THE TREATMENT OF ECZEMA*

J S EISENSTAEDT S B M D

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[illegible], Cook County Ho[illegible]

CHICAGO

As is generally well known many diseased conditions of the [illegible] eczemas or dermatitides The so called [illegible] occupational eczema [illegible] under the newer cla[illegible] considered as dermatitides In discussing the [illegible] eczema, therefore it must be borne in mind [illegible] the disease is a clinical entity, [illegible] ent a definite pathologic process [illegible] etiology While it is true that many [illegible] may precipitate the out break of [illegible] commonly assumed that some peculiar [illegible] disease exist This [illegible] perhaps [illegible] cause the same external noxae [illegible] outbreak of eczema in a susceptible [illegible] provoke the eruption [illegible] normal [illegible] point a painstaking [illegible] thorough [illegible] patient and make a [illegible] tion [illegible] are of value

Ch[illegible] a predisposition to eczema are [illegible] At times the inherent cause [illegible] other times they may not [illegible] instances in which [illegible] inte[illegible] not apparent or [illegible] dis[illegible] pathologic process ho[illegible]

treated as observed The patient should be warned against contact with irritating substances which may produce inflammation of the skin It however the underlying cause in a given case can be determined its elimination must be accomplished or at least attempted

Eczema most frequently affects printers, bakers, painters and plasterers, but washerwomen, janitors, and employees in certain chemical industries or those who constantly come in contact with various irritating substances, are likewise frequently sufferers from this disease In this type of case the patient will of course, be ordered to refrain from his work until he is completely cured Even then recurrences may be anticipated if the same occupation is followed These untoward circumstances often make treatment and cure financially difficult for the patient Such susceptible persons should be advised to change their trade or occupation if possible, so that recurrences may be avoided

The treatment here described has been found safe and in the majority of cases satisfactory in my own work The external treatment of eczema depends on the intensity, the stage of the disease, and its duration, in other words, on the clinical symptoms as interpreted from a pathologic point of view Those substances which produce irritation of the skin should first be eliminated from the patient's surroundings In severe and generalized or extensive cases the patient should not wear starched linen or other articles of dress which rub against the inflamed parts He should be confined to his room and should not exert himself, so as not to become overheated and thus produce hyperemia, which [illegible] condition Next the skin should be [illegible] preparations which tend to alleviate the [illegible] cause the inflammatory process to retro[illegible] There is no specific medication for the disease [illegible] therapy based on the clinical picture [illegible] patient comes under treatment The [illegible] change too rapidly from one type [illegible] another If a given preparation or [illegible] improvement it should be con[illegible] ment ceases Nothing is so fruit[illegible] more harm than irrational, ever-[illegible]

[illegible] Eczema [illegible] the face with [illegible] papules at bor[illegible]

ACUTE ECZEMA

[illegible] vesicular eczema the skin [illegible] salves and ointments as well [illegible] tolerated In these instances [illegible] alcoholic solution of 0 5 per [illegible] followed by the use of a bland [illegible] every three [illegible]

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* [illegible] Jan 28 [illegible] the term [illegible] and Syphilol[illegible]

The alcoholic solution of salicylic acid has a slightly astringent action as well as a cooling effect, and the dusting powder affords desirable protection In this way the eczematous outbreak can often be aborted and recovery obtained in a few days On the other hand, the papules may prove resistant and while the associated erythema and swelling disappear, the papules become somewhat harder in consistency and more apparent to the eye At this stage the skin is not so irritable and may well tolerate ointments and pastes, followed by the application of a bland dusting powder, or a zinc oxid lotion may be used

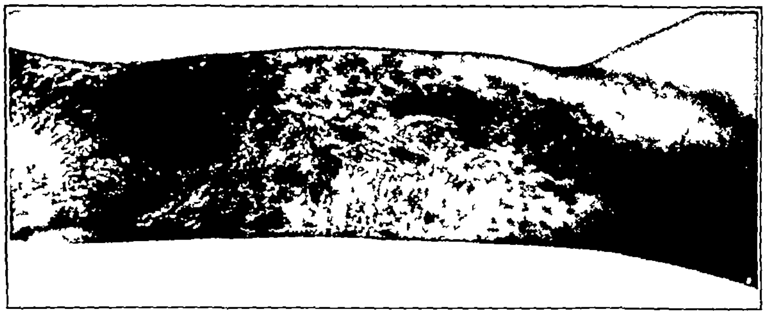

Fig 2 —Marked subacute eczema of the right arm with scales and crusts and papules at border of patch

		Gm
Zinc oxid		
Talcum	aa	15
Petrolatum		30

Label Apply to inflamed parts

		Gm or C c
Zinc oxid		
Starch		
Glycerin		
Distilled water	aa	15

Label Zinc oxid lotion

Under this treatment the acute cases become subacute, the papules lose their redness, and become darker or somewhat livid or brownish in hue At this point a high dilution of some drug which hastens desquamation may be added to the ointment or paste For example, tar preparations, such as the oil of cade or rectified oil of birch tar, ichthyol and its allied preparations, or salicylic acid, may be added

		Gm or C c
Zinc oxid		
Talcum	aa	10
Petrolatum		20
Rectified oil of birch tar		3

Label Tar zinc paste

The use of tar preparations is indicated especially at this stage because of their effect in controlling dilatation of the blood vessels However, it must be emphasized that their use should be followed rather gingerly, testing out, as it were, the patient's tolerance It is not well to prescribe oil of cade or oil of Russian birch in strengths greater than from 0 5 to 1 per cent in the first prescription containing tar

In cases of vesicular and moist or weeping eczema the skin is in an even more irritable and intolerant condition Here only the blandest, most soothing and cooling applications may be used The preparations first mentioned are not to be used Alcohol would cause pain, and dusting powders in admixture with the serous exudate would form a thick, adherent crust One must, therefore, select applications which are protective and which at the same time will permit the free evacuation of the products of inflammation In this instance a moist or wet dressing has cooling qualities and at the some time aids in the maceration of the roofs of the vesicles Impermeable substances, such as oil silk or gutta percha tissue should not be applied over these wet dressings It is distinctly desirable, however, to change dressings frequently Dressings saturated with any of a number of solutions meet the indications admirably Lead water diluted with from five to eight parts of water, solution of aluminum subacetate diluted with nine parts of water, and an aqueous solution of ichthyol 1 100, have proved efficacious

These solutions are best used cold and should be changed every ten or fifteen minutes The gauze should not be folded in more than three or four thicknesses, so that evaporation can readily take place In the event that aqueous solutions are poorly tolerated, a mild ointment, such as boric acid and benzoated lard, or a mixture of equal parts of lime water and olive oil may be tried

Should there be only slight or no improvement from these aqueous solutions or mild ointments, it is advisable to resort to the use of ointments or pastes of greater consistency, for example, zinc oxid ointment or Lassar's paste, applying the ointment on linen or mull bandage and swathing the part If, finally, even the thicker ointments and pastes do not bring results, it may be necessary to resort to energetic stimulation which causes a crust to form The crust acts as a protective covering under which the repair process goes forward Stimulating applications may be made by painting the part with a 5 per cent silver nitrate solution, or with a 10 per cent alcoholic solution of tar After application the part is covered with starch powder It is well again to emphasize that the medication which causes improvement should be continued, while that which aggravates the condition or which brings about no improvement must be immediately stopped

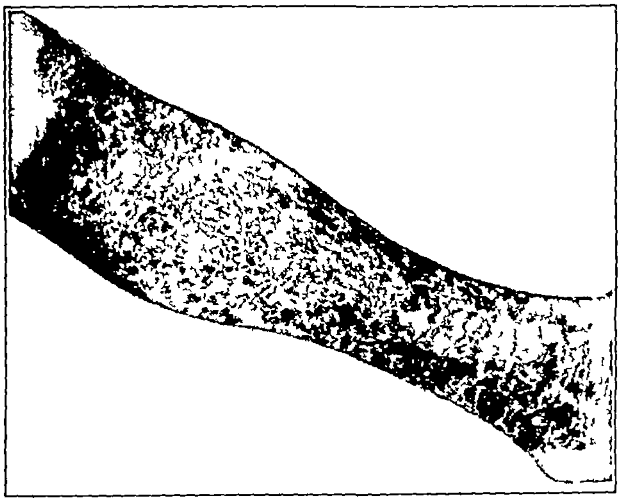

Fig 3 —Eczema squamosum et crustosum of the leg with thickening of the skin accumulation of scales and crusts and relatively sharp demarcation of lower margin of patch

In more chronic cases of vesicular eczema when the acute inflammatory symptoms have disappeared and when oozing has stopped and the patches are covered with adherent crusts (eczema crustosum), a good local application is a dressing impregnated with an astringent paste or ointment Diachylon ointment serves this purpose very well, the ointment is applied to linen and the bandages are changed once daily and the part cleansed with olive oil Such dressings are continued until all evidence of the disease has disappeared

ECZEMA SQUAMOSUM

The method just described is applicable to cases of squamous eczema without previous use of the foregoing methods of treatment, because it will cause maceration of the scaly covering of the patch and produce an astringent effect on the dilated vessels It also serves as a valuable protective covering The standard treatment for squamous eczema is the application of nonirritating ointments or pastes to which may be added some antipruritic, such as thymol, phenol, camphor or salicylic acid Tar preparations are indicated when the area has become distinctly less inflammatory and has taken on a bluish red or livid appearance When the patient is free from eczema he must observe certain precautions He must use a minimum of water on the skin, he should use only nonirritating soaps, and following a bath he should anoint his body with a bland oil

ECZEMA OF THE SCALP

Eczema of the scalp is considered a special type of the disease because the numerous sebaceous glands partake in the inflammatory reaction Thick pastes or ointments are naturally not indicated and must not be used Nightly applications of oil to the scalp with a protective dressing on the head are advised, the scalp to be washed with soap and warm water in the morning In this way the crusts and other products of inflammation are removed The removal of crusts is essential so that subsequent therapy may reach the affected integument In cases of moist eczema of the scalp, applications saturated with solution of lead acetate or aluminum subacetate meet the indications When the oozing or weeping has stopped it is well to apply oily suspensions or thin ointments containing tar, sulphur or both

	Gm or Cc
Rectified oil of birch tar	1
Precipitated sulphur	2
Benzoated lard	
Petrolatum	aa 20

Label Apply to scalp

To remove the scales an alcoholic lotion may be used with a small admixture of kerosene or ether In many cases of chronic eczema of the scalp a 5 per cent white precipitate ointment is of great value

ECZEMA OF THE NARES

This condition is frequently associated with pathology in the nasal cavities, for example, deflected septum, hypertrophied turbinates, or polypus, and is often present in cases of chronic rhinitis In these cases it is well to have the cooperation of a rhinologist The patient often develops rhagades and frequently erysipelas may follow if this condition persists These cases are best treated with tampons impregnated with a 5 per cent white precipitate ointment or a 10 per cent ichthyol ointment

ECZEMA OF THE PALMS

Eczema of the palms and soles is given special consideration because of the marked thickness of the epidermis in these parts The vesicular type is rarely seen here because the epidermis is so closely and intimately connected with the underlying structures In these cases a marked thickening of the epidermis is noted The first therapeutic indication is the removal of this horny accumulation, so that the underlying inflammatory process may be influenced by the medication ordered This can be accomplished by energetic therapy which produces maceration, for which a suitable ointment applied to a mull bandage and brought into intimate apposition with the skin is very useful

	Gm or Cc
Diachylon ointment	30
Oil of cade	6

Label *Apply on linen and bandage*

During and after this mode of treatment it is well to use a formaldehyd ointment, because of the marked hyperhidrosis which is frequently associated with this form of eczema

	Gm or Cc
Solution of formaldehyd	5
Menthol	5
Wool fat	
Petrolatum	aa 25

Label Formaldehyd ointment

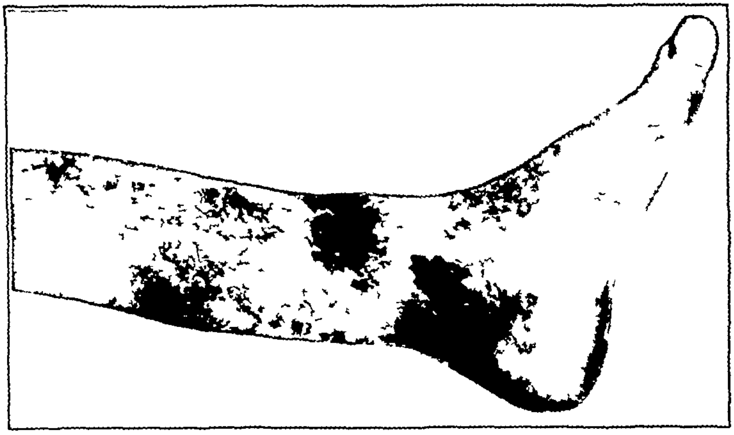

Fig 4 —Chronic eczema of left leg associated with varicose veins horny epidermis scales and hard infiltrated papules at margin of lesion

The frequent use of water is not permitted because it stimulates the growth of horny epidermis

ECZEMA OF THE BREAST

In eczema of the breast it is well to examine the patient carefully for the presence of scabies If scabies exists it should be energetically treated regardless of the intensity of the eczema If the eczema is a result of nursing and the condition is not so severe as to necessitate weaning the child, great care must be exercised not to prescribe drugs which might be toxic to the infant With these reservations, eczema of the breast is treated according to the foregoing rules and suggestions

ECZEMA OF THE GENITAL AND ANAL REGIONS

It is not unusual to find eczema around the genital and anal regions, since hemorrhoids and constipation favor its presence Cases of nervous pruritus ani are frequently sources of eczema owing to the rubbing and scratching of the parts by the patient Close attention to the regularity of the bowels scrupulous cleanliness locally, and the use of ichthyol rectal supp ries are important aids in the treatment
In this location also, as long as the
cations of solution of aluminum
cated after which stage mild oi

However, in many cases of eczema around the anal region, tar and other stimulating drugs may be used earlier than elsewhere.

The skin must be kept as dry as possible because any excess of moisture causes untoward maceration. In order to avoid this, ample dusting with starch powder and the application of a suspensory padded with absorbent cotton are valuable. To allay itching in the anal region, many drugs may be used in various types of application. However, one often has to experiment with the individual case to determine which drug to employ. The following may be used alone or in combination: tar, salicylic acid, betanaphthol, compound sulphur ointment (Wilkinson's ointment), solution of coal-tar, and ichthyol.

ECZEMA IN CHILDREN

In eczema of children one proceeds ordinarily in the routine manner. The children are not bathed, the skin is anointed with olive oil, and very mild ointments, such as zinc oxid ointment or zinc oxid ointment mixed with diachylon ointment, are applied to the skin. In order to prevent scratching, the hands of the child are tied. Later, as the condition improves, it is well to wash the skin with 40 per cent. alcohol.

In those locations where the skin surfaces lie in contact with one another, intertrigo often occurs in children as well as in adults. In order to care properly for these cases it is necessary to cleanse the skin carefully and to keep the surfaces apart by interposed padding. In fat children suffering from eczema intertrigo, one often sees dusting powders liberally used, frequently talcum powder, which forms into granules of variable size and often serves as an additional source of irritation. The principle of applying a bland powder is correct, but the result of using a dusting powder, especially talcum alone, is often unfortunate. Dusting powders may be used advantageously if applied on absorbent cotton rolls which are placed between the folds of the skin. By this method the cotton absorbs the moisture, and the powder does not form into rough, irregular, irritating granules. The cotton rolls must, of course, be changed frequently because they quickly become saturated. Here again in cases of marked or even moderate oozing the indication is for moist dressing of solution of aluminum acetate or subacetate, which should be applied cold and frequently changed.

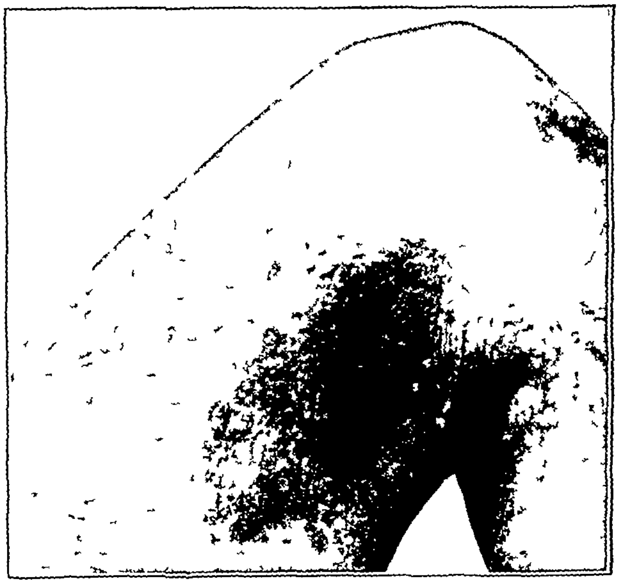

Fig. 5.—Chronic eczema with marked lichenification on inner aspect of thigh.

ECZEMA ASSOCIATED WITH ANEMIA

In cases of eczema associated with marked anemia, the treatment is similar to the same type of eczema in other persons, except that experience has shown that the admixture of cod liver oil in the ointments favors their tolerance. The general condition of the patient, usually a young person, must, of course, be taken into consideration. Iron, arsenic, cod liver oil or other remedies for anemia may be prescribed as indicated.

CHRONIC ECZEMA

Chronic eczema shows superficial inflammatory signs similar to those noted in the acute type. However, there is present in these cases a deep-seated infiltration of the corium resulting from the protracted course of the disease. Therapy is directed, therefore, first toward the symptoms as observed, and second, to overcome the infiltration in the corium and the thickening of the skin. So long as the latter is not accomplished, recurrences may be expected. The superficial inflammatory reaction is treated in the same manner as in acute or subacute cases, with moist dressings, ointments, pastes and other applications. It usually yields readily to treatment and leaves the skin somewhat discolored, scaly, and often cyanotic and thickened.

In these chronic cases we do not then apply ointments containing tar or ichthyol as has been described, but institute a definitely planned treatment which compresses the involved cutis, and produces maceration and subsequent exfoliation of the overlying layers. This is best carried out with bandages impregnated with diachylon ointment, which actually function as plasters, or, in less inflammatory cases, by the use of salicylic acid plaster. This treatment must be carried out often for a period of weeks, but eventually produces excellent results.

It is well in cases of marked thickening of the skin to apply a thin coating of the undiluted oil of cade with a camel's hair brush, and then bandage with diachylon ointment. If this intensive therapy is poorly tolerated the parts may be bandaged with Lassar's paste after the application of oil of cade. Often such dressings may be left for several days, and need not be removed unless the patient complains of burning or pain. This method simplifies the treatment considerably. The latter part of the treatment of such a persistent chronic case is carried out by the application of tar ointments or pastes, but only after the intense thickening has been carefully eliminated by the previous use of bandages.

INTERNAL THERAPY OF ECZEMA

In an article of this character the internal treatment can only be outlined. As has been stated, the causative factors of internal origin, when discovered, must be eliminated as completely as possible.

The dietary management of a patient is one of the most important features in the treatment of many if not most cases of eczema. Some patients do not tolerate carbohydrates as well as others, and in these cases a reduction of carbohydrate intake almost to complete elimination is a necessary procedure In all cases it is well to examine the urine, noting any change from normal, sugar especially should be looked for Some cases of carbohydrate intolerance, while showing no sugar in the urine, present quite constantly an increased amount of sugar in the blood

Other patients are intolerant of sodium chlorid in large quantities, and questioning will often bring out the fact that these patients indulge overmuch in the use of ordinary table salt Still other patients eat excessive quantities of nitrogenous articles of food, and a diminution in this element is of distinct advantage

Especially in persons past middle life suffering from eczema, nephritic changes should be looked for, and if present, properly treated Certain other patients with eczema present an anaphylactoid if not a true anaphylactic reaction against specific proteins or proteins of certain groups, among which may be mentioned egg albumin, pork, and the protein of cow's milk It would lead too far ahead to enter on a discussion of the various proteins which, in susceptible persons may cause an outbreak of eczema, but the careful clinician will bear these possibilities in mind and will inquire into the dietary habits of his patients Often he will find that the patient himself may connect the ingestion of certain articles of diet with the appearance of the eruption A patient recently under my care reacted in a marked way to the ingestion of walnuts Besides the eczematous condition which followed he also presented marked edema of the nasal and conjunctival mucosae It is well, therefore, to start a patient off with an absolutely bland diet, which is readily digestible and which contains little or none of the substances that experience has shown may be productive of eczema

There are undoubtedly patients in whom the predisposition to eczema can in a greater or less degree be controlled by organotherapy I have repeatedly seen patients materially aided by small doses of thyroid substance, and several neurotic and underdeveloped young women, I am sure were markedly benefited by the use of corpus luteum extract However, the physiology and therapeutic uses of the ductless gland substances are in general so poorly understood that it is impossible to give clear-cut indications for their use and the suggestion is offered merely as one that they may sometimes be helpful in the management of eczema

25 East Washington Street

Infant Mortality in War Zone—A report on the subject of the sufferings of French and Belgian children under German domination in the occupied regions has been made to the French Academy of Medicine by Dr Albert Calmette It was found that out of 18 036 children who at the time of the armistice were attending the public or private schools of Lille, rather more than 8 000 had to be sent to hospital or convalescent colonies by the ministry of the invaded regions This selection made by specially qualified doctors established that in all the scholastic groups at the end of the occupation the growth of 60 per cent of the children had been definitely arrested while about 40 per cent showed clear signs of tuberculosis of the lymph glands In a single school (Ecole Fombelle) inspected in March 1919 of 210 children examined only one was normal 163 suffered from deformity or other disease, 139 had swollen glands forty two had rickets and six had pulmonary tuberculosis—*Med Officer* Nov 29 1919

Clinical Notes, Suggestions, and New Instruments

BLOOD TRANSFUSION APPARATUS

L L Stanley M D San Quentin Calif

This blood transfusion apparatus was devised and has been successfully used at the California State Prison at San Quentin, Calif It is of the ball valve plan, and may be used with any capacity Luer syringe

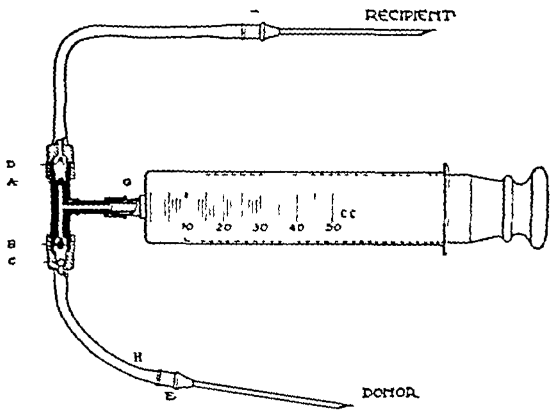

Fig 1—Details of blood transfusion apparatus

When the plunger of the syringe is drawn out the ball *A* (Fig 1) engages in the socket not permitting any fluid to pass it while the ball *C* is displaced upward to position *b* allowing the blood to come from the donor into the syringe When the syringe piston is pushed in the ball in the lower chamber engages the socket at *C* preventing the fluid from returning to the donor At the same time the ball *A* is released from its socket and assumes a position in the upper chamber at *D* allowing the blood forced from the syringe to flow into the veins of the recipient

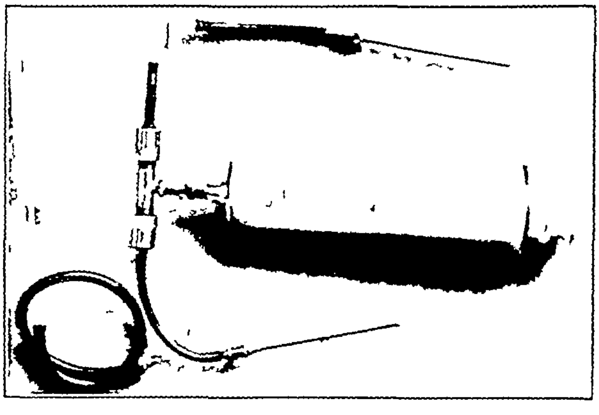

Fig 2—Blood transfusion apparatus and buret

The donor and the recipient are placed on adjoining tables with the arm of the recipient slightly higher than that of the donor for the balls engage by gravity and the valve must be held in a vertical position The syringe is thoroughly sterilized, and the inside is coated with Ablemann's citrated ointment which consists of

	Gm. or C.c.
Adeps lanae	15
Aqua	30
Sodium citrate	15
Petrolatum	q. s. ad 100

The valve connections and needles are boiled together

With the syringe connected enough physiologic sodium chlorid solution is drawn in to displace any air and [illegible] few cubic centimeters in the barrel The cubital veins of both parties are located, and tourniquets applied The needle is placed first into the vein of the donor, and when blood begins to flow, is connected to the apparatus at *E* Similar procedure is done with the recipient and when the connection is made at *F*, the operator may pump the blood

The apparatus is so arranged that it may be taken apart and thoroughly cleaned It is well to have two of these valves, one to quickly replace the other, in case the syringe should begin to work hard, or the blood begin to clot The first valve is easily disconnected at *E*, *F* and *G*, and the second one substituted

Should it be desirable to give citrate solution with the blood, a buret (*I* Fig 2), to which is attached a rubber tubing with a No 28 hypodermic needle at the end is provided When the apparatus is connected up, the needle is plunged into the connecting tube at *H* As the blood is drawn in from the donor likewise the citrate solution is taken in from the container *I* The percentage of the mixture is regulated by the size of the needles at *H* and *E* and the strength of the citrate solution

The advantages of the apparatus are

1 The amount of blood transfused can be measured

2 The blood is not exposed to the air

3 The method is direct

4 Only veins are used and repeated transfusions from the same donor may be made

5 Any amount can be transfused, and done very quickly

In this prison many injections of arsphenamin are given each week When the patients are ready, sufficient solution is prepared for ten consecutive injections

With this apparatus using a 50 c c Luer syringe, one dose is drawn from the mixing vessel through the donor s tube, and injected into the patient, through the recipient's tube This is more satisfactory than the gravity method, and saves considerable time

UNIQUE FOREIGN BODY IN NOSE*

Irving Wilson Voorhees M S M D New York

N A W, a colored man, aged 34, a native of the British West Indies, came to the West Side Dispensary, Jan 17, 1920 with a history of yellow discharge from the right nostril during the previous two months Examination revealed a large black mass in the right nasal fossa, very firm and hard, but freely movable in its bed The septum was pushed over to the left and the mass was bathed in yellow pus It seemed reasonable to suppose that we had to do with a mass of necrotic bone probably a sequestrum from the nasoantral wall following a tertiary lesion Pledgets of cotton saturated with 10 per cent cocain were introduced into the nose and left for ten minutes, at the end of which time our diagnostic acumen received a rude shock

When 17 years of age the patient tried to invent a gun He took a piece of bicycle pipe about 1 foot long, into the open end of which he screwed a threaded bolt borrowed for the occasion from some part of a bedstead He then bored a touch-hole in front of this breech plug Into the muzzle he loaded a charge of gunpowder rammed it down, followed this with a few BB shots which were also rammed down, and then invited his cousin to apply a flame to the touch-hole while he held the apparatus in the position of aiming The charge exploded and so did the piece of pipe The breech plug blew backward and had never been seen or found but small pieces of iron penetrated the left side of the nose in the region of the ethmoid The scar from these fragments is still quite visible but insignificant The boy was in bed for seventeen days and was visited twice daily by a physician who did not however, locate the piece of iron For seven months thereafter the boy experienced pain in his head and between the eyes about 10 o clock each morning Considerable discharge came from his nose This was worse, he thinks in summer He came to the clinic chiefly because his friends chided him about a stench from his head, and because of "frequent colds"

After removal of the cocain pledgets, the black mass above mentioned was grasped with strong nasal grasping forceps, and much to our surprise a solid heavy object was gradually withdrawn from the nose, occasioning only slight discomfort in its passage When washed off under the water tap, the improvised "breech plug" was identified as the missing iron bolt which seventeen years previously had been suddenly projected into the patient's nose

The dimensions and weight of the bolt were length 5 5 cm (2⅛ inches), diameter, 1 5 cm (½ inch), weight, a little over 1 ounce

There is probably some latent sinus trouble, which we intend to look into as soon as roentgenograms can be made

It seems hardly possible that any human being could carry such a foreign body in any part of his anatomy for seventeen years and not be conscious of its presence

Special Article

TYPHOID IN THE LARGE CITIES OF THE UNITED STATES IN 1919

EIGHTH ANNUAL REPORT

The Journal presents its eighth annual survey[1] of typhoid fever mortality in cities in the United States having more than 100,000 population The cities included in the summary number sixty, and are the same as those reported on last year[2]

It should be especially noted that the calculated typhoid rates for 1919 presented in this report are based on relatively unsatisfactory population estimates It is now nine years since the 1910 census, and probably in a number of instances the population estimates are quite wide of the mark The U S Census Bureau makes no estimate at all for the population of Denver, Memphis, Portland, Ore, Seattle and Spokane Special methods of estimation have been used by the Census Bureau for the population of Cleveland and Washington

The margin of error is probably not great in a few cities, such as Albany, N Y, but in many others it will doubtless be shown by the 1920 census enumeration that calculated death rates for 1919 will have to be considerably revised For these reasons, typhoid death rates can be subjected only to a broadly critical comparison this year

The nine largest cities in the country (Group 1) show a very notable improvement in typhoid death rates as compared with 1918 For the first time, all the cities in this group have a rate below 10 In only one instance (Philadelphia) are the 1919 figures higher than those for the preceding year Baltimore has the lowest typhoid rate in its history, and rises into the first rank (cities having a death rate of less than 10) The improvement in Baltimore is all the more noteworthy in that the recently annexed territory has had a much higher typhoid morbidity than the older portion of the city It is stated that for the first six months of 1919 the morbidity rate in the annexed district was about five times as great as in the old city It speaks well for efficient health administration in that city that, in the face of this disadvantage, the total typhoid mortality should show a decrease

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*Patient and specimen presented before the Nose and Throat Section New York Academy of Medicine Jan 21 1920

[1] The preceding articles were published May 31 1913 p 1702 May 9 1914 p 1473 April 17 1915 p 1322 April 22 1916 p 1305 March 17 1917 p 845 March 16 1918 p 777 and April 5 1919 p 997

[2] The number of typhoid deaths has been sent us by the local officer of health and the rates have been calculated on the basis of population estimates made according to the method of the U S Census Bureau It may perhaps be noted that the figures kindly furnished us by the municipal officials include the deaths of nonresidents as well as residents occurring within the city limits In some instances this undoubtedly gives an exaggerated impression of the amount of typhoid fever in a community but at present statisticians are agreed that the attempt to eliminate the deaths of nonresidents would often result in an understatement of the true mortality (Bureau of the Census Mortality Statistics 1912 p 13)

A particularly satisfactory improvement appears in Detroit, causing this city to rank well among other Northern cities for the first time in a number of years The decline in Detroit's typhoid, which began about 1917, has now brought the death rate to the lowest point in the history of the city Typhoid cases in Detroit are at present being studied very carefully A relatively large proportion (about 45 per cent) is attributed to outside infection The proportion of contact cases seems to be low as compared with the figures for New York City, only twenty-four out of a total of 281 being attributed to this cause Swimming and bathing in the polluted river water about the city is considered to be an important factor in the typhoid situation Not a single case has been traced to milk during the three years 1917, 1918 and 1919

Chicago, New York, Boston and Cleveland report typhoid rates that are astonishingly low The improvement due to filtration of the Cleveland water supply is doubtless largely responsible for the lowering of the rate in that city Chicago heads the list of cities in this group for the third consecutive year

TABLE 1—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 1 (MORE THAN 500 000 POPULATION)

	Deaths from Typhoid per 100 000 Population				
	1919	1918	Average 1916-1919	Average 1911 1915	Average 1906-1910
Chicago	1 2	1 4	2 7	8 2	15 8
New York	2 0	3 7	3 4	8.0	13 5
Boston	2 2	2 5	2 8	8 0	16 0
Cleveland	2 4	4 7	4 9	10 0	15 7
Philadelphia	4 4	3 0	5 3	11 2	41 7
Detroit	5 3	10 0	12 0	18 1	21 1
St Louis	5 8	7 2	7 5	12 1	14 7
Pittsburgh	6 2	9 8	8 9	15 9	65 0
Baltimore	8 9	12 2	13 6	23 7	35 1

As in previous years, the New York City Health Department has printed quarterly the results of its detailed study of each typhoid case Increasing success seems to mark the work of the department in tracing sources of infection For the last quarter of 1919 it is reported that the probable mode of infection was determined in 35 7 per cent of the cases, as against 30 per cent in the corresponding quarter of 1918 A relatively large proportion of the cases was traced to out of town infection The majority of the cases traced to their source within the city were due to contact with active cases or chronic carriers Water-borne and milk-borne typhoid infection seems to have almost disappeared from New York City

It is doubtful whether there is today any other country in the world in which the nine largest cities could show so low an average typhoid rate as that reached in Group 1 in 1919

The cities in Group 2 (from 300,000 to 500,000 population) show improvement almost without exception over the 1918 rates Newark, N J , and Cincinnati reach very low records, and Seattle maintains its admirably low rate of last year (2 3) The protection of the watershed of the Seattle water supply is receiving special attention from the local health authorities since it is estimated that the watershed now has a population of from 500 to 600 All of these persons are required to submit themselves to typhoid immunization, and other methods of controlling conditions on the watershed are being energetically carried out

Milwaukee continues to maintain its astonishingly low rate of the past few years The purification of the water supply is still an issue in that city Chlorination is now being practiced and, as the typhoid death rate shows with eminent success, but it is generally considered that filtration will have to be resorted to eventually Experiments to determine the applicability of various rapid filtration methods have been conducted during the past year

TABLE 2—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 2 (FROM 300 000 TO 500 000 POPULATION

	Deaths from Typhoid per 100 000 Population				
	1919	1918	Average 1916-1919	Average 1911 1915	Average 1906-1910
Newark N J	2 1	3 5	3 6	6 8	14 6
Seattle	2 8	2 3	3 1	5 7	25 2
Cincinnati	2 6	4 1	3 7	7 8	30 1
Minneapoli	3 1	7 6	5 6	10 6	37 1
San Francisco	3 3	4 6	4 0	13 6	27 3
Milwaukee	3 5	6 2	7 6	13 6	27 0
Washington	3 7	11 9	10 3	17 2	36 7
Los Angeles	4 7	2 8	3 9	10 7	[illegible]
Buffalo	7 0	7 8	8 9	15 4	[illegible]
New Orleans	13 7	20 1	20 0	20 9	35 6

New Orleans shows a substantial reduction in its typhoid rate for the first time in about ten years, and Washington records the remarkably low rate of 3 7, which brings it at once into cities of the first rank The table (Table 2) shows the truly amazing improvement that has occurred in Washington in the past ten years The typhoid death rate in this city in 1919 was almost exactly one-tenth the average rate for 1906-1910

Group 3 (from 200 000 to 300,000 population) makes a much better record than in 1918, nearly every city showing a decrease in the typhoid rate Denver and Columbus appear to have been exceptionally favored Seven cities report rates under 5, as against four cities in 1918

Rochester, N Y , for some reason appears to have about doubled its rate of 1918, although the 1919 rate of 3 8 is by no means alarmingly high Rumors were current in that city at one time during the summer that a break in the water main had led to the entrance of river water into the system, but this report seems to have been unconfirmed by the city health authorities

TABLE 3—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 3 (FROM 200 000 TO 300 000 POPULATION)

	Deaths from Typhoid per 100 000 Population				
	1919	1918	Average 1916-1919	Average 1911 1915	Average 1906-1910
Jersey City	2 2	4 1	4 0	[illegible]	[illegible]
Columbus Ohio	3 0	8 9	8 2	15 8	40 0
St Paul	3 0	3 5	3 4	[illegible]	18 3
Denver	3 2	8 7	6 0	1 0	37
Providence R I	3 4	4 5	4 6	10 9	14 3
Portland Ore	3 6	[illegible]	4 8	10 8	[illegible]
Rochester N Y	3 8	[illegible]	3 4	9 6	19 8
Indianapolis	4 7	6 6	11 9	[illegible]	[illegible]
Louisville Ky	[illegible]	1 4	10 8	19 7	[illegible]
Kansas City Mo	11 2	13 7	11 3	[illegible]	[illegible]

Louisville Ky makes a particularly good showing It is stated however that a few cases of preventable typhoid have occurred in that city due to drinking contaminated spring water in a public park Milk borne typhoid was also a factor during the summer, but both city and state health departments acted with commendable promptitude and the neglect of physicians to report cases of typhoid in the family of a dairyman was summarily dealt with The degree of improvement reached in Louisville with its large negro population may be appreciated by comparing the average of 1916-1919 (10 8) with the average for 1906-1910 (52 7) Indianapolis and Columbus, two Northern cities which, for some years, lagged behind similarly situated communities, seem now to be permanently in the class with other cities having the same climatic and racial characteristics Kansas City, however, shows relatively little diminution in its typhoid rate, and has, indeed, remained practically stationary for four or five years The rate for 1919 appears to be slightly higher than that in 1916 and 1917 It seems a favorable time for an intensive investigation of the relatively high prevalence of typhoid fever in that city

TABLE 4—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 4 (FROM 125 000 TO 200 000 POPULATION)

	Deaths from Typhoid per 100 000 Population				
	1919	1918	Average 1916-1919	Average 1911 1915	Average 1906 1910
Spokane Wash	0 0	9 1	4 5	17 1	50 3
Scranton Pa	1 3	5 2	4 4	9 3	31 [illegible]
Worcester Mass	2 8	4 6	3 9	5 0	11 8
Fall River Mass	3 0	7 0	9 4	13 4	13 5
Toledo Ohio	3 1	9 9	11 4	31 4	37 [illegible]
Oakland Calif	3 2	4 7	3 4	8 7	21 5
Richmond Va	3 7	7 [illegible]	10 5	15 7	34 0
Paterson N J	4 2	2 1	4 7	9 1	19 3
Omaha	4 4	5 0	5 2	14 9	40 7
New Haven Conn	5 7	5 2	7 0	16 2	30 8
Syracuse N Y	6 7	9 3	8 6	12 3	15 6
Atlanta Ga	9 6	14 4	14 6	31 4	58 4
Birmingham Ala	14 6	51 9	35 8		
Memphis Tenn	58 4	1[illegible] 9	3[illegible] 6	42 5	35 3

Group 4 (from 125,000 to 200,000 population) includes the city with the highest (Memphis) and that with the lowest (Spokane) 1919 death rate in the whole series of sixty cities included in this summary Spokane reports that it has not had a single death from typhoid fever, a truly remarkable showing, but one that we may anticipate will be rivaled by other communities in the near future Cambridge, Mass (Group 5), reports only two deaths and Hartford, Conn (Group 5), only one Spokane, however, seems to bear off the honor of being the first American city with more than 100,000 population to have no single death from typhoid fever within its borders during a calendar year

TABLE 5—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 5 (FROM 100 000 TO 125,000 POPULATION)

	Deaths from Typhoid per 100 000 Population				
	1919	1918	Average 1916 1919	Average 1911 1915	Average 1906-1910
Hartford Conn	0 9	7 0	6 8	15 9	19 0
Tacoma Wash	1 6	5 7	3 3	10 4	
New Bedford Mass	1 6	8 0	4 8	15 0	16 1
Cambridge Mass	1 7	2 7	2 4	4 0	9 8
Springfield Mass	2 6	3 6	4 3	17 6	
Camden N J	2 7	3 6	5 5	4 5	
Lowell Mass	3 4	1 8	5 8	10 2	17 9
Bridgeport Conn	3 8	3 9	5 7	5 0	10 3
Dayton Ohio	4 7	6 9	9 9	14 8	[illegible]
Grand Rapids Mich	5 1	10 3	10 8	25 5	29 7
Salt Lake City	5 4	7 1	10 2	13 [illegible]	
Reading Pa	6 1	12 3	11 1	31 9	42 0
Trenton N J	6 8	9 4	8 7	22 3	
Albany N Y	7 6	10 7	9 1	18 [illegible]	17 4
San Antonio Tex	9 6	54 3	20 6	29 5	
Dallas Tex	12 2	12 6	17 9		
Nashville Tenn	15 8	32 7	23 [illegible]	40 2	61 2

At the other end of the scale, Memphis has temporarily descended into the depths In March and April, 1919, Memphis suffered from an old fashioned waterborne epidemic of typhoid due to the serious contamination of the city supply This unfortunate occurrence has made the Memphis rate the highest among the sixty cities here considered It is, in fact, the highest typhoid rate recorded in any one of these cities since 1911, when it was Memphis again that had the unenviable distinction of having the highest rate from typhoid fever of any large city in the United States An encouraging feature of the situation in that city, however, is that except for the water epidemic in the spring typhoid seemed well under control, only four deaths being reported for the last four months of 1919

Richmond, Va, makes a new low record of 3 7, a rate which is probably the lowest ever reached by any Southern city of more than 100,000 population Not a single death occurred in that city during the first six months of last year The rate is so low, in fact, that difficulty may well be experienced in living up to it during the next few years We have had occasion to comment previously on the admirable health administration in Richmond during the last decade, which has been one of the factors that has made such achievements possible Two other Southern cities, Atlanta and Birmingham have also established low typhoid rates which must be regarded as highly creditable in view of the climatic and racial conditions with which these cities have to contend The Birmingham milk supply has very properly been the subject of special agitation There is reason to believe that milk-borne infection and fly-borne infection are still relatively important typhoid factors in many Southern cities It can be fairly predicted that with a good pasteurization ordinance the typhoid in Birmingham will be materially reduced as it has been in other cities where suitable measures for safeguarding milk supplies have been put in force

TABLE 6—DEATH RATES FROM TYPHOID IN 1919

Honor Roll (from 0 0 to 2 0)			
Spokane Wash	0 0	Tacoma Wash	1 6
Hartford Conn	0.9	New Bedford Mass	1 6
Chicago	1 2	Cambridge Mass	1 7
Scranton Pa	1 3	New York	2 0
First Rank (from 2 0 to 5 0)			
Newark N J	2 1	San Francisco	3 3
Boston	2 2	Providence R I	3 4
Jersey City	2 2	Lowell Mass	3 4
Seattle	2.3	Milwaukee	3 5
Cleveland	2.4	Portland Ore	[illegible] 6
Cincinnati	2 6	Richmond Va	3 7
Springfield Mass	2 6	Washington	3 7
Camden N J	2 7	Bridgeport Conn	3 8
Worcester Mass	2 8	Rochester N Y	3 8
Fall River Mass	3 0	Paterson N J	4 2
St Paul	3 0	Omaha	4 4
Columbus Ohio	3 0	Philadelphia	4 4
Minneapolis	3 1	Dayton Ohio	4 [illegible]
Toledo Ohio	3 1	Los Angeles	4 7
Oakland Calif	3 2	Indianapolis	4 7
Denver	3 2		
Second Rank (from 5 0 to 10 0)			
Grand Rapids Mich	5 1	Trenton N J	6 8
Detroit	5 3	Buffalo	7 0
Salt Lake City	5 4	Albany N Y	7 6
New Haven Conn	5 7	Baltimore	8 9
St Louis	5 8	Louisville Ky	9 0
Reading Pa	6 1	Atlanta Ga	9 6
Pittsburgh	6 2	San Antonio Tex	9 6
Syracuse N Y	6 7		
Third Rank (from 10 0 to 20 0)			
Kansas City Mo	11 2	Birmingham Ala	14 6
Dallas Tex	12 2	Nashville Tenn	1 8
New Orleans	13 7		
Fourth Rank (over 20 0)			
Memphis	58 4		

Toledo, which in 1916 had a rate of about 23, now records the very low rate of 3 1 Fall River, Scranton Oakland and Worcester are other cities in which the 1919 typhoid rate was very low

Group 5 (from 100,000 to 125,000 population) comprises seventeen cities In all but one of these the typhoid rate was lower in 1919 than in 1918, the exception showing only a trifling change It is plain that in most of the cities in this group the number of deaths is now so small that a slight fluctuation in rate from year to year has little significance Many cities now report only one, two, three or four deaths in a year, and not all of these are deaths of residents

It is probable, as stated earlier in the summary that population estimates for some cities are quite wide of the mark This is, perhaps, particularly true of certain cities in this group Such cities as Bridgeport and Dayton, for example, may find their typhoid rates somewhat reduced when the 1920 census figures become available for use in calculation, but in cities of this size having less than half a dozen typhoid deaths, slight rate changes are of comparatively little significance

It is evident that the maintenance of a low typhoid rate is not to be taken as a matter of course without the exertion of constant vigilance by the local health authorities The remarkably successful results reached in this group of cities are due to the unremitting efforts of health officers in safeguarding the public water and milk supplies, in applying proper methods of excreta disposal, and in tracking down typhoid carriers It must be remembered, too, that many of these communities are surrounded by villages and country districts less scrupulous with regard to typhoid occurrence or less able to cope with it than themselves, so that probably a considerable proportion of city typhoid is due to infection contracted outside the municipal limits

It is worth noting that the three Southern cities that had the highest typhoid rate in Group 5 in 1918 all show a reduction this year

The continued lowering of typhoid death rates in American cities is one of the outstanding features of modern sanitary progress The rate for the whole group of sixty cities containing approximately one fourth of the population of the country is now less than 5 In 1912, only one of these cities had a rate lower than 5 So late as 1916 there were only three cities with a rate of 2 or less There are now eight In 1912 there were only fifteen out of the fifty-one cities then on our list that had a rate less than 10 All but four of these cities had a lower rate than 10 in 1919 Other comparisons might be made, but the tables themselves are sufficiently striking

TABLE 7—AVERAGE DEATHS FROM TYPHOID PER HUNDRED THOUSAND IN EACH GROUP 1916 1917 1918 AND 1919

Group	Year	No of Cities	Total Population	No of Deaths	Av Deaths per 100 000
1	1916	9	13 743 746	854	6 2
1	1917	9	14 027 563	774	5 5
1	1918	9	13 809 901	598	4 3
1	1919	9	15 019 516	463	3 1
2	1916	10	4 053 781	344	8 5
2	1917	10	4 150 099	329	7 9
2	1918	10	4 362 088	298	6 8
2	1919	10	4 511 181	204	4 5
3	1916	10	2 635 983	248	9 4
3	1917	10	2 701 029	173	6 4
3	1918	10	2 773 716	193	6 9
3	1919	10	2 859 092	134	4 7
4	1916	14	2 2[illegible]0 991	330	14 7
4	1917	14	2 310 362	307	13 3
4	1918	14	2 449 736	331	13 5
4	1919	14	3 564 860	210	8 2
5	1916	17	1 983 918	235	11 8
5	1917	17	2 031 313	229	11 3
5	1918	17	2 053 215	240	11 7
5	1919	17	2 103 710	115	5 5
Total	1916	60	25 667 919	2 011	8 1
Total	1917	60	2[illegible] 220 076	1 812	7 2
Total	1918	60	25 458 606	1 660	6 5
Total	1919	60	27 078 359	1 126	4 2

The unusually large percentage of typhoid reduction shown in 1919 as compared with preceding years may very well be attributed in part to the immunization in the army camps of a large proportion of the particularly susceptible age group It is plain, too that the continued safeguarding of water and milk supplies has nearly everywhere reduced typhoid to so low a point that health authorities are enabled to devote more attention to the prevention of contact and carrier cases Wherever it is possible to investigate promptly and thoroughly the circumstances surrounding the development of each individual case further spread of the disease is likely to be materially diminished The outlook is highly encouraging for the practical elimination of typhoid fever

TABLE 8—TOTAL AVERAGE TYPHOID DEATH RATE (1910-1919)

	Total Population (57 Cities)* Estimated by U S Census Bureau Methods	Typhoid Deaths	Typhoid Death Rate per 100 000
1910	20 996 035	4 114	19 [illegible]9
1911	21 545 014	3 391	1[illegible] 74
1912	22 093 993	2 775	1[illegible] 5[illegible]
1913	22 642 972	2 592	1[illegible]
1914	23 191 951	2 408	10 38
1915	23 740 930	2 068	8 71
1916	24 205 359	1 842	7 61
1917	24 740 068	1 647	6 6[illegible]
1918	24 971 778	1 557	6 23
1919	25 376 186	987	3 87

* Three cities are omitted from this summary because data for the full period are not available

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER SECRETARY

BENZOCAINE (See New and Nonofficial Remedies 1920 p 33)

Anesthesin-Calco—A brand of benzocaine complying with the N N R standards

Manufactured by the Calco Chemical Company Bound Brook N J No U S patent or trademark

GONOCOCCUS VACCINE (See New and Nonofficial Remedies 1920 p 283)

The Gilliland Laboratories Ambler Pa

Gonococcus Vaccine (Polyvalent)—A number of strains of *M Gonorrhea Neisser* are used in the preparation of this vaccine the killed bacteria are suspended in physiological solution of sodium chloride and preserved with 0 25 per cent three cresols Marketed in packages of four syringes containing respectively 250 500 1 000 and 2 000 million killed gonococci also in packages of four 1 Cc ampules containing respectively 250 500 1 000 and 2 000 million killed gonococci

OVARY (See New and Nonofficial Remedies 1920 p 201)

Ovarian Residue-Hollister-Wilson—The residue from the fresh ovaries of the hog after the ablation of the corpus luteum

Actions and Uses—Ovarian Residue is used for the same conditions as the entire ovarian substance but is claimed to have the advantage of being somewhat more stable in composition (see general article on Ovary New and Nonofficial Remedies 1920)

Dosage—From 0 06 to 0 2 Gm (1 to 3 grains)

Manufactured by the Hollister Wilson Laboratories Chicago [illegible] U S patent or trademark

Ovarian Residue Hollister Wilson is a gray[illegible] peculiar odor It is prepared from the [illegible] removal by hand of the corpus luteum [illegible] powdered

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SATURDAY, MARCH 6 1920

AN INDEX OF THE BODY'S MUSCULATURE

The physiologic significance of creatinin, which regularly appears in the urine, is still shrouded in mystery Its close chemical similarity to creatin, long ago discovered to be a characteristic component of the muscular tissues of the higher animals, has inevitably led to conjectures regarding a relationship between the two chemical compounds, but no tenable theory can be formulated at the present day The demonstration that urinary creatinin may have a purely endogenous origin and be excreted in comparatively constant daily amounts by persons who do not ingest either creatin or creatinin gave an impetus to the search for its precursor

The average amount of creatinin excreted daily during a creatin and creatinin free regimen, expressed as milligrams per kilogram of body weight, has been termed the creatinin coefficient[1] This has been estimated at about 25 mg for lean persons and 20 mg for the corpulent, the difference indicating that muscular mass rather than body weight per se is a determining factor in the creatinin coefficient of the body

Creatinin does not seem to be increased appreciably in the urine as the direct result of exercise, hence it is doubtful whether muscular contraction leads immediately to a transformation of muscle creatin or whether there is some other muscular genesis of the urinary end-product Nevertheless it has long been maintained that the creatinin coefficient may be an index of the functional capacity of the muscles because of its apparent proportionality to the mass of active contractile tissues In muscular atrophies, the creatinin excretion appears to be below normal

There are times when body weight gives a distorted view of the functional efficiency of the organism In such circumstances it would be helpful to have an index as to the degree of involvement of the master tissues of the body By a suitable indication, the degree of deterioration or restoration might be more accurately evaluated through chemical analysis of metabolism than through physical measurements or clinical inspection Burger has reverted to the problem of the creatinin coefficient by new observations in Schittenhelm s clinic at Kiel[2] Numerous determinations on patients there have confirmed the belief that a high coefficient corresponds as a rule with the presence of a vigorous musculature, lower figures being obtained when the muscular development is poor and activity weakened The original figures recorded by the pioneer American investigators of this subject have been confirmed

There is a practical value attached to the demonstration that the creatinin coefficient is an index of the extent of participation of musculature in the entire body mass under normal physiologic conditions When "reduction treatments" are instituted on obese patients, it is not always easy to decide whether the consequent loss of weight is due to combustion of fat or to an undesired disintegration of other than adipose tissues The determination of the creatinin coefficient may give a much desired clue With properly conducted therapy to overcome obesity the coefficient should increase A calculation shows that on the basis of the conceptions here discussed, 1 gm of urinary creatinin per day is correlated with about 23 kg (50 pounds) of muscle tissue From such statistics it is possible to estimate the approximate muscle content of the body For the average normal person it should correspond to about 40 per cent of the body weight Deductions and applications of the tentative principles here presented are obvious

DELEGATES TO THE UNITED STATES PHARMACOPEIAL CONVENTION

Attention was called in the General News department of The Journal last week to the meeting of the U S Pharmacopeial Convention to be held in Washington in May The objects of this convention are set forth in its articles of incorporation

> The particular objects and business of this association are the encouragement and promotion of the science and art of medicine and pharmacy by selecting by research and experiment and other proper methods and by *naming such materials as may be properly used as medicines and drugs* with formulas for their preparation [italics ours —Ed] by establishing one uniform standard and guide for the use of those engaged in the practice of medicine and pharmacy in the United States whereby the identity, strength and purity of all such medicines and drugs may be accurately determined and for other like and similar purposes

Of primary importance among the functions of the convention, then, are the naming of drugs which may properly be used as medicines, devising of formulas in accordance with which they are to be compounded, and establishing of standards by which their identity and purity may be proved As this is a large task, requiring special knowledge, the convention properly delegates this work to a body of fifty experts called the "Committee of Revision of the U S Pharmacopeia "

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[1] Shaffer P A Am J Physiol 28 1 1908

[2] Burger M Beitrage zum Kreatininstoffwechsel I Die Bedeutung des Kreatininkoeffizienten fur die quantitative Bewertung der Muskulatur als Korpergewichtskomponente Ztschr f d ges exper Med 9 262 (Oct) 1919

Who are best qualified, first of all, *to name the drugs which may properly be used as medicines?* Obviously, physicians who use drugs in the treatment of disease, and pharmacologists who study the actions of drugs on the living organism. Pharmacists who devise the formulas for compounding drugs or for making preparations for administering such drugs, chemists who establish the standards by which their identity and purity may be determined, and manufacturers whose opinion must be influenced by commercial considerations, should by no means have the deciding vote in this matter.

At the time of the previous revision, a "Committee on Scope" was appointed, to which were referred all questions of additions to and deletions from the Pharmacopeia. The decisions of this committee were to be based on the "therapeutic usefulness" or the "pharmaceutic necessity" of the drugs considered. A majority of the committee consisted of physicians. After a vast amount of work, the Committee on Scope submitted its report, recommending the deletion of a large number of substances which were not considered to be "therapeutically useful" or "pharmaceutically necessary." However, the executive committee (only two members of which may be said to represent those practicing medicine) disregarded the recommendations of the Committee on Scope in many respects, and included or rejected whatever substances it pleased, even including some drugs which had not even been considered by the Committee on Scope. Naturally, the Pharmacopeia thus compiled is an expression of pharmacy and the drug trade rather than of medicine.

To avoid a repetition of these conditions in the next Pharmacopeia, it is essential that each medical organization entitled to representation at the coming meeting of the convention should elect three delegates and three alternates, so that full representation of medical science shall be guaranteed. Delegates should be selected who know what are the interests of scientific medicine in the Pharmacopeia—delegates who realize that physicians, more than any others, are vitally interested in the content of the Pharmacopeia—delegates whose practice and teaching reflect the modern trend to eliminate the unimportant and useless drugs from the Pharmacopeia. The delegates should feel their responsibility and attend and take part in all of the meetings of the convention in order to secure the necessary reforms. It would be desirable that the convention pass a resolution which would make the composition of the Committee on Scope subject to the will of the whole convention. Obviously it is desirable that pharmacologists and physicians should comprise at least the majority of the members of the Committee on Scope, and that the decisions of this committee should be final and not subject to revision by any other committee, general or special. Particularly, its action should not be revised by any committee on which manufacturing pharmacists predominate.

ORAL SEPSIS AND THE ELECTIVE LOCALIZATION OF BACTERIA

Six years have elapsed since Billings[1] published the extensive clinical observations made by himself and his co-workers to demonstrate the importance of septic foci, even when small, as sources of chronic infection conveyed by the blood stream. It was shown that these foci may harbor the same type of bacteria as are found in distant lesions, and that specific types tend to localize in definite organs or tissues. Rosenow,[2] in particular, has been most energetic in the attempt to demonstrate conclusively the elective localizing power of freshly isolated streptococci found in the focus or systemic lesions of a number of diseases, including appendicitis, ulcer of the stomach, chronic endocarditis, and rheumatic fever.

Inevitably the possible relationship between ill health and oral sepsis has come into prominence in connection with the recent studies on what has lately been termed focal infection. To many it has seemed of late as it tonsillectomy and extraction of the teeth were vying with each other in popularity as procedures for removing objectionable bacterial foci. Rosenow[3] has recently applied his methods to a study of the possible significance of dental sepsis. He reports that specific lesions have been produced with bacteria from the various types of dental focal infections, such as gingivitis, pyorrhea, infected pulps, apical abscesses, discharging sinuses, and granulomas. He believes that his newer findings warrant the conclusion that chronic foci of infection about the teeth are potentially or actually detrimental to the health of the persons who harbor them. According to him, the lesions which are more or less enclosed, and which drain only into the circulation are probably the most dangerous and that sooner or later, alone or in connection with predisposing factors, they will break down the resistance of the patient and produce disease. Pulpless teeth and blind abscesses are regarded as the most dangerous form of dental sepsis.

In view of the growing favor in which the extraction of teeth is being held, several precautions need to be emphasized. Teeth should never be sacrificed unless the indications for removal are clear. Rosenow avers that tonsillectomy as now so commonly practiced before the condition of the teeth has been corrected is illogical. The lymphatics of the mouth and jaws drain into the tonsils. Some infections of tonsils improve or even disappear following the extraction of infected teeth. The elimination of a visible focus does not necessarily mean the exclusion of all foci of infection. Vigilance must never be relaxed so long as the results are not all that is expected. When it is at length appreciated that the prevention and cure of dental foci is only one of many factors in the management of infection of obscure origin, the dangers of a one-sided therapeutic point of view will be averted, and a more sane hygiene is likely to ensue. However, the failure of the enthusiasm for oral hygiene to produce a cure-all need not blind us to the helpful contributions which a better knowledge and recognition of oral sepsis have brought to modern practice.[4]

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[1] Billings, Frank: Focal Infection: Its Broader Application in the Etiology of General Disease, J. A. M. A. 63: 899 (Sept. 12) 1914.

[2] Rosenow, E. C.: Experimental Infectious Endocarditis, J. Infect. Dis. 11: 210, 1912; The Etiology of Acute Rheumatism, Articular and Muscular, ibid. 14: 61, 1914; The Etiology and Experimental Production of Erythema Nodosum, ibid. 16: 367, 1915; Elective Localization of Streptococci, J. A. M. A. 65: 1687 (Nov. 13) 1915. Rosenow, E. C.; Towne, E. B., and von Hess, C. L.: The Elective Localization of Streptococci from Epidemic Poliomyelitis, J. Infect. Dis. 22: 313 (April) 1918.

[3] Rosenow, E. C.: Studies on Elective Localization: Focal Infection with Special Reference to Oral Sepsis, J. Dental Res. 1: 205 (Sept.) 1919.

TYPHOID A VANISHING DISEASE

The Journal's annual summary of typhoid fever in the large cities of the United States[5] which appears in this issue, is encouraging beyond expectation. Fifteen years ago, typhoid rates of more than 20 in these cities were very common, and rates of less than 10 correspondingly rare. The most sanguine sanitarian would hardly have anticipated the far reaching improvement that has actually occurred. At that time public health workers believed that any rate under 10 was highly satisfactory, and that a better average than this could hardly be expected for a generation. The author of an excellent work on typhoid, published in 1918, felt himself justified in stating at that time that "we have hitherto been extremely backward in applying recognized methods of sanitary prevention which have long prevailed in other lands." This criticism of American sanitary procedure would perhaps have been justified ten or fifteen years earlier, but long before 1918 the work of typhoid reduction was in full swing. Marked improvement began to occur about 1910, and from that time to this nearly every year has witnessed a fall in the typhoid death rate. The 1919 typhoid rate for a population of about 27 000,000 has reached the exceedingly low point of 4.2.

It should not escape notice that the 1919 rate shows a proportionately large diminution. The most plausible explanation would seem to be that given in our special article, namely, that the antityphoid inoculation of the young men in the military camps has proved a continuing safeguard for this age group, which would ordinarily have furnished a considerable number of typhoid victims. It seems to be evident that water supply and milk supply are hardly important factors at present in typhoid causation in our large American cities.

The great reduction in typhoid cases has everywhere the further advantage that it has now become possible for health authorities to investigate promptly and thoroughly each case of the disease as soon as it appears. It is thus becoming easier all the time to check incipient epidemics, to discover typhoid carriers, and to exercise better control over the surroundings of each typhoid case. The decrease in the number of typhoid carriers that will come inevitably with the lessening of the prevalence of the disease is sure in the long run to lighten the burden of health officers and to facilitate the task of eliminating typhoid fever. For it must now be recognized that the goal which we may set for ourselves is the practical extinction of typhoid fever in this country. When one city of more than 100 000 inhabitants is able to report not a single death from typhoid, and another city has only one death from this disease, while the city of Chicago, with a population of more than two and a half million, reports only thirty-one typhoid deaths, we are perhaps justified in hoping that the day will come when typhoid, already a medical curiosity in some localities, will become like smallpox, practically a negligible factor in our mortality returns.

Current Comment

ACUTE RESPIRATORY INFECTION IN MONKEYS FROM INOCULATION OF INFLUENZA BACILLUS

As reported recently in The Journal, Blake and Cecil[1] obtained interesting results by the inoculation of monkeys with a strain of the influenza bacillus isolated from influenzal pneumonia in a man and subsequently raised in virulence by repeated passages through animals. When inoculated in the nose or nose and mouth there developed an acute, self-limited disease with prostration, fever, cough and sneezing, rhinitis and tracheobronchitis, and either leukopenia or no special change in the leukocytes. Purulent sinusitis and hemorrhagic pneumonia developed in some of the animals. On intratracheal injections of the same strain of influenza bacillus, there resulted a similar pneumonia and similar general symptoms. Blake and Cecil regard the disease thus produced as "identical with influenza in man in its course, symptomatology, complications and pathology," and they conclude that "it seems reasonable to infer that *B. influenzae* is the specific cause of influenza." While there is no doubt that the influenza bacillus can cause an infection in the respiratory tract in monkeys that somewhat resembles influenza, it does not seem to have been established that this organism is the cause of influenza. Blake and Cecil recently presented their findings before the New York Academy of Medicine; elsewhere[2] in this issue is a report of the meeting. In the discussion exception was taken particularly to the claim that it had been demonstrated that the Pfeiffer bacillus was the cause of epidemic influenza. Dr. William H. Park pointed out that the Pfeiffer bacillus has been found in virtually every case of whooping cough, in 90 per cent. of measles cases, and also in a large percentage of cases of respiratory infections which had been examined It was his belief that the experience of Cecil and Blake had been important in designating that lesions can be formed in monkeys by the Pfeiffer bacillus similar to those found in the pneumonias occurring in influenza According to Dr Zinsser, the work had made it seem somewhat more likely that the influenza bacillus is the etiologic factor, and yet he did not believe that final judgment can be given on this point The evidence cited by Blake and Cecil does not seem wholly convincing for various other reasons (1) Possibly the inoculation of monkeys with other bacteria associated with influenza than the influenza bacillus would produce practically the same symptoms and lesions as those described, and on this account extensive control experiments are needed before any conclusions of a definite value can be drawn from the results of these experiments with the influenza bacillus, (2) many bacteriologists would take exception to the statement that the influenza bacillus is associated constantly with early uncomplicated cases of influenza, and (3) pathologists would hesitate to accept the statement that the pulmonary lesions in the inoculated monkeys are identical with those of human influenza At least the question will remain open until the results of much more detailed studies are available, studies not only of material from inoculations with influenza bacilli but also of material from inoculations with other bacteria associated with influenza In other words, we must not lose sight of the facts that other bacteria found in influenza may give similar experimental results, that the constant presence of the influenza bacillus in influenza has not been demonstrated conclusively, and that it has not been shown that lesions unquestionably peculiar to influenza have been reproduced in monkeys inoculated with influenza bacilli It may, however, be stated that virulent influenza bacilli may cause an acute infection of the respiratory tract when inoculated in monkeys

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[4] In this connection the reader is referred to the monograph by Duke, W. W.: Oral Sepsis in Its Relation to Systemic Disease, St. Louis, C. V. Mosby Company, 124 pp.

[5] Typhoid in the Large Cities of the United States in 1919, special article, this issue, p. 672.

[1] Blake, F. G., and Cecil, R. L.: The Production of an Acute Respiratory Disease in Monkeys by Inoculation with Bacillus Influenzae, The Journal A. M. A., Jan. 17, 1920, p. 170.

[2] Society Proceedings, this issue, p. 696.

SNAPPING HIP

It is not always grave and dangerous diseases that bring the patient to the physician, frequently symptoms that are trivial so far as their effect on health is concerned, are responsible for the call, on account of the annoyance they produce Such a minor ailment is the peculiar condition "snapping hip" The patient complains that flexion and extension of the hip, such as occurs during walking, produces a peculiar snapping sensation on the outer side of the joint which at times may be audible to by-standers even at distances of 20 or 30 feet Mayer[1] has recently described four cases In his cases the phenomenon was due to a line of thickened fascia lata catching behind the great trochanter Flexion of the thigh stretches the fascia which finally, like a taut bow string, is suddenly released and snaps back in front of the trochanter Propping[2] calls attention to the fact that Perrin was the first to describe this phenomenon before a meeting of the Societe de Chirurgie de Paris in 1859, and at that time demonstrated its mechanism In 1912 Ebner[3] collected the reports of twenty-eight cases, to which Propping has added two more In one of Propping's cases he demonstrated that the cause was a habitual dislocation of the head of the femur He believes that in many cases the snapping is wholly under the control of the patient and that it has a hysterical basis The patient can produce the snapping sensation and sound voluntarily, whenever he desires Manon[4] has also described a case recently He found that simple transverse section put an end to the disturbance It has been known for some time that there is normally a line of thickening in the fascia lata which runs from the iliac crest downward just in the line of the posterior margin of the great trochanter — the tractus cristofemoralis If this tract becomes abnormally thickened or if the trochanter becomes abnormally prominent the "snapping hip" may be produced although a third factor is also necessary, namely relaxation of the gluteus maximus Mayer shows that the phenomenon may sometimes be controlled by appropriate strapping, but that in other instances it is necessary to excise portions of the tractus cristofemoralis so as to avoid a reformation of this band

BOILED VEGETABLES FOR DIABETICS

Von Noorden called attention to the fact that the boiling of vegetables removed some of the carbohydrates, and Allen applied this fact by using thrice boiled vegetables in the dietary of diabetics Until recently, the degree of removal of carbohydrates from different vegetables under repeated boilings had not been extensively studied from the quantitative point of view This gap in our knowledge has now been partly filled by the work of Cammidge[5] who has analyzed seventeen of the commonly used vegetables after boiling once, twice and three times He found that the number of boilings necessary to remove all carbohydrate varied with different vegetables In the case of celery rhubarb and spinach two boilings sufficed to remove all carbohydrate In the case of white turnips and carrots, three boilings were sufficient but in the case of all the other vegetables tested there was still carbohydrate varying from 0 1 to 1 per cent after three boilings There appeared to be no direct relation between the amount of carbohydrate originally present and the number of boilings required to remove it The serious drawback to the use of thrice boiled vegetables has proved to be the lack of palatability that results It is difficult to serve in an appetizing form the resultant mass of vegetable material and the removal of the carbohydrates is accompanied by almost complete removal of the original flavor This can be remedied to some extent by making clear broths or similar flavoring substances with the vegetable puree It was some time ago suggested by Ruth Wardall that repeated extraction of the vegetables at a temperature considerably below boiling might accomplish the same result as boiling without interfering so seriously with

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[1] Mayer Leo Surg Gynec & Obst 29 425 (Nov) 1919
[2] Propping Karl Deutsch Ztschr f Chir 148 251 (Feb) 1919
[3] Ebner Deutsch Ztschr f Chir 107 63 1912
[4] Manon M Snapping Hip Joint Presse med 27 615 (Oct) 1919
[5] Cammidge P J Lancet 2 119 (Dec 27) 1919 abstr J A M A 74 358 (Jan 31) 1920